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ORIGINAL LECTURES.

CRANIECTOMY FOR MICROCEPHALUS—THE LATER HISTORY OF A CASE OF EXCISION OF THE HAND-CENTRE FOR EPILEPSY.

A Clinical Lecture delivered at the Jefferson Medical College Hospital, November 19, 1890.

BY W. W. KEEN, M.D.,

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GENTLEMEN: The first case that I shall show you to-day is that of the little boy upon whom I operated before you last December. At that time I removed the hand-centre from the cerebrum for the relief of epilepsy.[1] First, as a caution to you, I will tell you of a slight accident that occurred.

You will notice that the scar, instead of being pale as it should be, is somewhat red at one point. Shortly after the operation the boy disturbed the dressings, and I feared that the wound would become infected. A small abscess formed which was followed later by the extrusion of two of the small pieces of bone, which you will remember I replaced. The large 1½-inch button is in good condition. At the second dressing after the operation I wished to remove the strand of horsehairs which had been placed in the wound for drainage, but on taking away the gauze I did not find them. The dressings were then carefully examined, as I thought that the hairs might have been pulled out when the gauze was removed. I then searched for them upon the floor and then carefully and gently in the wound itself, but not finding them I came to the conclusion that the child had pulled the hairs out at the time that the dressings were disturbed and that they had been lost. The wound healed nicely, except at the place where the two fragments of bone came out, which united slowly.

All went well till last June, when the cicatrix became red and irritated and a little later a small sinus formed, in which the horsehairs were found and removed. They were probably cut too short, and when the child disturbed the dressings were pushed into the wound, remaining there from December until June without giving rise to any trouble. I have never before had such an occurrence, and I give you this history so that you may avoid the same accident. I once performed an operation upon a young woman who had been previously operated upon, and found in the seat of the old wound one of the horsehairs which had remained there a year without giving rise to any irritation.

In the present case, in spite of the horsehair, which must have caused some irritation, the boy's condition is much better, although he is not completely cured. The fits have been, as a rule, far less severe and less frequent than before the operation and his disposition is very greatly improved. In fact, he is quite a different boy and more amenable to control, so that he can now play with other children. He is interested in matters of every-day life almost as much as one would expect in a child of his age. His vocabulary also is now quite large, and he is learning quiet kindergarten plays, which he would not have touched or looked at in his restless impatience a year ago.

How far this change in disposition is due to the operation and how far to the careful training of Miss Bancroft and Miss Cox, of Haddonfield, N. J., who have had him in their training-school for feeble-minded children, I am not prepared to say; it is my belief, however, that it is largely due to the operation, as his disposition began to improve while still in the hospital, and especially after he went to his home.

For some weeks after the operation his hand was completely paralyzed, but later it gradually recovered and is now only slightly paretic. The bilateral function of the opposite cortex has reëstablished the function of the lost centre. He can feed himself without difficulty, and you would probably not have noticed the slight defect had I not called your attention to it.

CRANIECTOMY FOR MICROCEPHALUS.

The operation that I next propose to do is the first one of its kind which, so far as I know, has been performed in this country. It has been done only twice in Europe, both times by Lannelongue, of Paris. Lannelongue's first case was that of a microcephalic idiot, the history of which I will read to you.[1]

The patient was a girl, four years of age, born at term and without accident; father aged thirty-eight years and mother thirty-five years, both in good health. No hereditary disease. Five brothers and sisters in good health.

The child's mental development was retarded. She could not take any food but liquids, and up to the age of three years had not walked nor even stood. Within the last few weeks before coming under observation she had babbled a few syllables but no words. Saliva escaped from the mouth constantly. She had the appearance of an imperfectly-developed child of two years. Her eyes were brilliant, but she did not seem to be interested in anything about her, nor could one engage her attention. She was constantly uttering inarticulate cries, and scarcely ever ceased moving. Her height was 77 cm. (30⅜ inches), the circumference of the thorax 45 cm. (17¾ inches). Her legs, while they could not support her weight, were always in active motion. There were no contractures or paralyses; sensibility normal; reflexes not increased; no epileptoid manifestations. Head very much narrowed transversely and

[1] THE MEDICAL NEWS, April 12, 1890.

[1] L'Union Médicale, July 8, 1890.

prominent at the vertex. Nose well developed and aquiline. Forehead retreating and very narrow. Antero-posterior diameter of skull 155 mm. (6⅛ inches), bi-parietal 109 mm. (4¼ inches), bi-frontal 86 mm. (3⅜ inches).

Operation May 9, 1890: A narrow strip of bone was removed on the left side of the sagittal suture, as the left side was smaller than the right. The bone was removed a finger's breadth from the middle line and was 9 cm. (3 9/16 inches) in length and 6 mm. (¼ inch) in breadth. The dura was not opened. The incision in the scalp was made in such a manner as not to correspond with the incision in the bone. The periosteum was not replaced. Healing took place in a few days. During the operation, as well as for four or five days afterward, a serous liquid escaped in small drops from the surface of the dura mater.

Results: On June 15th, that is to say, in five weeks, the child was calmer, the incessant cries had ceased the day after the operation, she took notice of what went on about her, laughed and seemed very happy, comprehended what occurred, tried to talk and pronounced several words. She can now stand alone; she walks with regular steps, tottering a little when she hastens. She no longer drools. Her intelligence seems to have kept pace in its development with the physical improvement. She is now able to eat at the table. She has been under instruction, which may account in part for the improvement.

A second, similar, case, but more pronouncedly idiotic, was operated on June 20, 1890. The incision to the left of the middle line was the same, but another similar portion of bone was removed from the frontal on the left side, leaving a little bridge at the fronto-parietal suture. In other respects the operations were the same. Of course, the time was too short to judge of the result.

The history of the case upon which I am about to operate is as follows:

M. E., aged four years and seven months, was first seen by me on November 3, 1890. Three grandparents are living and in good health. Paternal grandmother had scrofulous glands in her neck. Her mother is aged thirty-three years, father thirty-five years, and both are in good health. She has one sister, nine years old, in good health physically and mentally. The patient's birth was normal and she was a breast-fed baby. At four or five months of age she weighed 25 pounds, at fifteen months 40 pounds, at three years 31 pounds, and at present only 30 pounds. She has never walked, but began to stand at about two years of age. When twenty-one months old she could say "baby," "pretty," "bye-bye," and other words, but since then entirely lost the power of speech. Two years ago she had twenty-four convulsions in one day, probably from teething, which was late; but these are the only convulsions she has had. Had measles and whooping-cough in rather rapid succession when about a year old.

Present condition: She is evidently a healthy but poorly-developed child. Her bones are small, and her head is very small and moderately prognathic, with defective development, most marked in the frontal region, and also in the occipital. Two photographs, one taken at twenty-one months of age, the other a week ago, show the greatest difference in expression, the earlier one being that of a bright, intelligent baby, the later showing a plainly idiotic face. There are no contractures or paralyses. She is constantly moving and wringing her hands, but evidently not from pain. She drools a good deal. The condition of her reflexes is hard to determine because of the constant movements and the want of intelligence. Her mother thinks that she knows her parents and sister. She watches strangers somewhat, but notices little else. Seems to be pleased by having her hat put on, as though she knew it meant that she is going out of doors. All the sutures are firm. The anterior fontanelle, which existed at birth, is entirely closed. Percussion gives a uniform sound all over the skull, and is not painful. She has "drowsy spells" from time to time, often several times a day, when her head falls over and she sinks down almost asleep, but awakens immediately and is as well as ever. These attacks last only two or three seconds. Her intelligence varies considerably; some times she is much brighter than at others.

Measurements: Height, 92.5 cm. (36⅜ inches); circumference of chest, 50 cm. (19⅝ inches); head, antero-posterior diameter, 15.3 cm. (6 1/16 inches), bi-parietal, 11.3 cm. (4½ inches), bi-auricular, 11.6 cm. (4 9/16 inches), bi-frontal, 9.5 c.m. (3¾ inches). Circumference of head, 43.5 cm. (17⅛ inches). The two sides of the head are of equal size. You observe that the head is very small, being about the size of the head of a child eleven or twelve months old.

The result of the examination of the eyes, which was made by my friend Dr. Hansell, is as follows: "The examination was difficult and prolonged on account of the constant movement of the hands and arms, and lack of intelligence preventing coöperation. The pupils responded to light and association, the pupil of one responding in contraction and dilatation to the alternate exposure to light and darkness. Media clear; fundus normal; nerves (optic disks) of good color. The internal squint, said to be present at times, was to-day absent. The patient seemed to have good vision."

The inherent cause of microcephalus we do not know. Formerly it was supposed to be due to premature ossification of the cranial sutures, but the examination of several such skulls has shown that while this may sometimes be the case, yet in the cases examined there was no abnormality in the bony development of the cranium. On the other hand, we know that the growth of the skull keeps pace with the growth of the brain within it; and if the growing power of the brain be weak, a slight resistance on the part of its osseous envelope may be sufficient to check and stunt it. Reasoning in this way, Lannelongue concluded that it was a rational procedure to attempt to remove at least a part of the force that was preventing this enfeebled brain from attaining a larger and more natural growth; and his operation was planned to effect this end. It is too early yet to pass judgment upon the operation as a remedial measure, for so far we have only the report of his two cases. It seems to me an experiment well worth trial. The operation itself, if it does not produce the hoped-for result, is at least little, if any, more dangerous than trephining; and, inasmuch as the dura is not opened, the real danger of the operation should be very small. Of course, the operation is only applicable to children.

I propose to do the operation with slight modifications.

Lannelongue's incision in the scalp was made parallel to the line of the sagittal suture, commencing in front of the lambdoid and extending forward to the coronal suture, then turning off at an obtuse angle downward on the forehead, with a bridge of bone at the coronal suture.

Instead of continuing my incision forward on the forehead as Lannelongue did, I shall there make a curved incision with the convexity backward and all in the hairy scalp. I shall then raise this flap of skin and under it cut out the bone, thus avoiding any scar on the forehead. The incision in the skin will not be in the same line as that in the bone, so that the wound in the cranium will be covered by the scalp. I shall leave no bridge of bone at the coronal suture. The object of the operation is to make the side of the head, as it were, into a bony flap, with an attached base below and a free border above. This flap can be readily expanded even by feeble force from within, and will allow the brain "elbow-room," so to speak, for development. I shall extend it into the frontal and occipital regions, so that these lobes, and especially the frontal, which is probably the seat of the intellectual faculties, may be able to enlarge. As the skull grows stronger and stiffer it will still have strength enough to prevent danger to life from ordinary blows or other traumatisms. It is a matter of indifference in this case upon which side the incision is made, as the cerebral development is symmetrical. A cast of her head has been taken, and at different periods of the child's growth other casts will be taken and the progress of the growth of the head may thus be determined. As the usual mode of making a cast by plaster cream alone is rather objectionable, and in the case of this child, indeed, impossible, I devised the following plan: The head was shaved and rubbed with a little sweet oil. A thin coat of plaster-of-Paris cream was then evenly applied to get a smooth surface. Upon this three or four layers of a common plaster-of-Paris bandage were put on as a "recurrent" bandage, followed by a thin layer of plaster-of-Paris cream, and so on ultimately until the mould was completed. If either the occiput or the frontal portion of the head is so prominent as to prevent the removal of the mould, it may be cut over these places before it dries, the edges of the cut being carefully restored to their original position immediately after removal. No cutting was needed in this case.

In my operations upon the brain I use sterilized gauzes instead of sponges. This gauze is steamed for three-quarters of an hour in a Sattegast steam sterilizer, without chemicals, as I prefer not to use corrosive sublimate in these cases. All the instruments are boiled in a Schimmelbusch sterilizer, and the water in the apparatus is kept boiling during the operation so that any instrument may be quickly sterilized if necessary. One per cent. of carbonate of sodium is added to the water to prevent rusting the instruments.

I have explained the operation to the father and mother of the child, telling them that it is only an experiment, but that I consider that there is little danger in it, and a possibility of doing her great good. Upon these grounds they at once consented to the operation.

Upon making my scalp incision I find that there is unusually little bleeding. I have at former times in operating upon the scalp placed an Esmarch narrow band around the head to prevent bleeding, but this is unnecessary. It adds to the length of what is always a long operation, and I find the hæmorrhage is easily controlled by hæmostatic forceps. The flap is pulled to one side, and I now carefully remove with a half-inch trephine a button of bone from a point about a finger's breadth to the right side of the sagittal suture, so that there is no danger of entering the superior longitudinal sinus. The dura is very carefully separated from the bone, and in this case I think is more adherent than usual. The instrument that I shall use in removing the bone is a pair of rongeur forceps, much more curved than ordinarily, and only one-fourth of an inch wide. In case of hæmorrhage from a branch of the middle meningeal I would quickly bite away the bone over the bleeding part with a forceps and pass a ligature under the vessel by means of a curved needle. The middle meningeal always requires to be ligated in this way. It runs in a tightly-stretched membrane and does not contract and retract like other arteries and thus easily and spontaneously cease bleeding. As the patient should have all the chances for recovery that are possible, I shall operate upon only one side to-day, thus reducing the danger of shock. She will be constantly under my observation; if her mental condition does not improve as much as I desire I shall operate later on the other side. The line of incision in the bone is now complete and extends to within three-fourths of an inch of the supraorbital ridge and backward nearly to the occipital bone, measuring six and one-fourth inches in length and one-fourth of an inch in width.

One rather large branch of the middle meningeal artery is seen crossing the cleft. The forceps are all removed and the flap is carefully inspected to see if there are any bleeding vessels. The hæmorrhage is usually stopped by the forceps, but in case I find any bleeding points I will pass a stitch under them, as I wish all bleeding to be completely arrested before the wound is closed. The periosteum is next cut away from the edges of the groove so that it will not cover it and cause union of the bone. A few strands of horsehair are placed in the groove and are cut sufficiently long to prevent danger of their slipping under the scalp in this case. These hairs will all be removed, except two or three, at the end of two or three days. In sewing up the flap I am careful to get absolute coaptation, so that there shall be no overlapping, as this would expose a surface which must heal by cicatrization. The wound is carefully dressed with sterilized gauze and she will be laid upon her right side to favor drainage. Now, gentlemen, the operation is completed, and we have only to await the future. Her mental traits have been closely observed, so that it may be readily seen whether there is any change in her intelligence.

[NOTE.—She was entirely well and all the sutures were out in five days. The operation took an hour and convinced me that it could be done in probably one-half that time by a proper pair of rongeur forceps. These I have had made, and I will report upon their usefulness in the future.—W. W. K.]

Deaths from Wild Beasts and Snakes in India.—According to the *Medical Press*, 1587 persons were killed by snakes and 385 by wild beasts in the Madras Presidency, India, in 1889. The number of cattle destroyed was 15,550.

ORIGINAL ARTICLES.

WHAT I HAVE LEARNED TO UNLEARN IN GYNECOLOGY.

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EVERY earnest worker in any field of the inexact sciences finds himself compelled to unlearn as well as to learn. The errors which he discovers and weeds out will usually be traditional teachings—the legacies of our forefathers—for we get many of our opinions, as well as many of our diseases, by heredity. What I have thus learned to unlearn in the treatment of woman's diseases will be the burden of this paper.

To begin, then, I have learned to unlearn the grandmotherly belief that the climacteric is in itself an entity, and that, as such, it is responsible for most of the ills of matronhood, and especially for that of menorrhagia. True, it must be conceded, that as an entity it does seem to disturb the vaso-motor system, and through it to cause many severe perturbations, such as tinglings and numbness, and sweating of the skin, flushes of heat and shivers of cold, emotional explosions, and a large group of hysterical symptoms. It can also lay claim to being an important factor in the causation of insanity. Yet, contrary to the prevalent lay and professional belief, how rarely can true uterine hæmorrhages or other uterine discharges be traced to the climacteric as a cause in itself. Yet many a poor woman has lost her health, her life, indeed, by her own and her physician's traditional belief, that her hæmorrhages or other vaginal discharges are critical and due to the "change-of-life," as it is popularly called—a misnomer which too often leads to indolent diagnosis and slovenly therapeutics.

What physician of any practice has not been called in to see some wretched sufferer, whose health has been crippled for months, or even for years, by hæmorrhages or by other discharges from the sexual organs, which have been attributed to the "change-of-life" by her friends, or—what is more inexcusable—by the successive physicians whom she has consulted? To the shame of the latter, they may not have made even a digital examination; yet a polypus or a fungoid degeneration of the endometrium, or a uterine fibroid, or a cancer of the cervix has been found by a more alert man, who does not believe in climacteric omnipotency. Never can I forget a case—not the only one—of a beautiful woman, beloved by a large circle of friends and surrounded by every luxury that wealth could furnish, who was allowed by her physician to bleed almost literally to death. Why? Because a polypus, being at first intra-uterine, was not recognized, and because her age justified, in his opinion, the diagnosis of "change-of-life." This diagnosis having been made, no other vaginal examination was ever thought of by this physician. But when he was discharged and another one was called in, the latter found the polypus dangling in the vagina. She was bedridden and as translucent as alabaster when I twisted off the growth. The hæmorrhages did not return, but neither did her health, and she died a few months later quite suddenly and very unexpectedly.

In other cases, by the careless indolence of the physicians, begotten by this traditional belief in climacteric influences, I have been compelled to undeceive some poor woman and break as gently as possible to her, that the flow which she had joyfully accepted as a return of her monthly periods, and which she has mistaken for rejuvenescence, is the sure token of an incurable and far advanced cancer of the cervix.

I have learned to unlearn the teaching that woman must not be subjected to a surgical operation during her monthly flux. Our forefathers, from time immemorial, have thought and taught that the presence of a menstruating woman would pollute solemn religious rites, would sour milk, spoil the fermentation in wine-vats, and do much other mischief in a general way. Influenced by hoary tradition, modern physicians very generally postpone all operative treatment until the flow has ceased. But why this delay, if time is precious and it enters as an important factor in the case? I have found menstruation to be the very best time to curette away fungous vegetations of the endometrium, for, being swollen, then, by the afflux of blood, they are larger than at any other time, and can the more readily be removed. There is, indeed, no surer way of checking a menorrhagia or of stopping a metrorrhagia than by curetting the womb during the very flow. While I do not select this period for the removal of ovarian cysts, or for other abdominal work, such as the extirpation of the ovaries, of a kidney, of breaking up intestinal adhesions, etc., yet I have not hesitated to perform these operations at such a time, and I have never had reason to regret the course. The only operations that I should dislike to perform during menstruation would be those involving the womb itself—such as the removal of a uterine fibroid, or a partial or a complete hysterectomy, and the various operations for uterine cancer, etc. This exception is based upon the danger of hæmorrhage arising from the increased vascular tension and pelvic hyperæmia, which exist during menstruation. This is well shown in fibroid tumor of the womb, in which this increased vascularity causes a corresponding increase in the size of the tumor itself. For obvious mechanical reasons it

would also hardly be wise to sew up the torn cervix of a menstruating womb.

I have learned to unlearn that anteflexion and anteversion in themselves—that is to say, as displacements merely, and without narrowing of the uterine canal—are necessarily pathological conditions of the womb. Text-books speak of them as such, and exhibit many ingenious forms of pessaries devised to rectify these so-called displacements. But very rarely indeed do I have to resort to them, and then only to a stem-pessary in anteflexions; for I find in almost every virgin or every barren woman that the womb in varying degrees is either bent forward or is tilted forward, and is apparently resting on the bladder. The mistake made, as I have more elaboratively shown in my *Lessons in Gynecology* is in attributing to this natural position of the womb the various forms of pelvic trouble, especially that of irritability of the bladder, to which women are so liable. But the sympathy between the brain and the bladder is a remarkably close one—so close, indeed, that some physiologists contend that "every mental act in man is accompanied by a contraction of the bladder." The irritability of the bladder thus becomes one of the first symptoms of nervousness, to which everyone is liable. Many a lawyer before pleading an important case, and many a clergyman before delivering a discourse, is compelled from sheer nervousness to empty his bladder. So it is with the lower animals, which, when frightened, micturate involuntarily. A nervous bladder is then one of the earliest phenomena of a nervous brain—for nervousness means a deficient control of the higher nerve-centres over the lower ones—a lack of brain-control. Now, a hysterical girl, or a woman whose nervous system has given way under the strain of domestic cares, consults the physician for such ordinary symptoms of nerve-exhaustion as wakefulness, utter weariness, a bearing-down feeling, backache, and, perhaps, above all, an irritable bladder. Upon making a digital examination, he usually finds the fundus of the womb resting on the bladder, where it naturally should rest. At once he jumps to the conclusion that the whole trouble is due to pressure of the womb on the bladder—viz., to the existing natural anteversion or to the anteflexion, as the case may be. Enticed away by the vesical lapwing from the bottom factor—the shattered nerves—he now makes local applications, and racks his brain to adapt or to devise some pessary capable of overcoming the supposed difficulty, heedless of the dilemma that the upward, or shoring, pressure of the pessary on the bladder must be greater than the counter, or downward, pressure of the womb, to which he attributes the vesical irritability.

In the lying-in chamber the fear of septicæmia will ever haunt me, but I have long since abandoned the idea cherished by that class of waistless and witless nurses, now happily obsolescent, that the parturient woman is to be swathed like a mummy and to be kept as immovable. What earthly harm can accrue to a woman after a natural labor if she turns over from side to side, sits up in bed, or even gets up to use the commode, if she feels like it, I cannot see. Natural labor is a physiological process, not a pathological one, but tradition has thrown around the lying-in bed a glamour of mischievous sentiment.

In relation to this let me express my disbelief that mammary abscess comes from "caked" breasts, or from breasts over-distended from a secretion of milk too great for the infant's needs. Mammary abscess, in the suckling woman comes, in my opinion, from cracked nipples, and from cracked nipples alone. In proof of this let me ask my readers if any one of them has ever had a case of mastitis after a miscarriage, or one of gathered breast following a stillbirth—always provided the breasts were let pretty much alone so far as pumping and sucking are concerned. Under these circumstances the unsucked and unpumped breast will swell up and grow painfully hard, but it will not inflame or suppurate. Let me not be understood as saying that an overdistended breast should not be relieved by sucking or by pumping; but the means employed for this relief must be so sparingly used, and at such long intervals, as not to crack the nipples. This immunity from mammary abscess after miscarriages and stillbirths is attributed by the physician to his local applications of belladonna, or of other milk-drying drugs. But it comes from the absence of the exciting cause of cracked nipples—the sucking child.

Long ago I came to the conclusion, that the womb, like the nose, has its own secretions; and that, because the cervical canal is stopped up with mucus, it is not to be treated any more harshly than a stopped-up nose. I was led to this belief from seeing very many cervical canals wholly closed up, even destroyed by the remedies applied to get rid of this mucus. Then again I found that, just as the nose secretes abundantly under the stimulus of the emotions, so the womb secretes more actively under a stimulus conveyed to impressionable nerves—so much so, indeed, that leucorrhœa is a common adjunct to nerve-prostration, and is then cured by the cure of its cause. This nasal analogy led me soon to think that even uterine catarrhs are not of such paramount importance as to merit heroic treatment, and that metritis and endometritis, in so far as symptoms are concerned, are often idle words. The mucus of a uterine catarrh is in quality very much the same as the mucus of a nasal catarrh, and

its secretion is in itself no more weakening. It is not a disease in itself, but is merely the symptom of a disease. It is not, therefore, that highly vitalized fluid, the loss of which, according to the traditional belief of the great majority of physicians, and of all women, saps the very citadel of life, brings on decrepit and premature old age, and hastens its victim to an untimely grave. This widespread error is a relic of mediæval ignorance, which believed in the existence of two seeds—the male and the female semen—and their admixture to insure conception. Hence leucorrhœa has erroneously come to mean pretty much the same thing as spermatorrhœa—a belief fostered by cunning quacks, who know how largely sex and sexuality make up our being and influence our credulity.

As a corollary to this, let me add, that I have wholly freed myself from the belief that cellulitis is at the bottom of most female ailments, and that the hot-water douche is its cure-all. My experience teaches me that, save in some cases of active congestion or of acute inflammation of the pelvic organs, the hot douche is of questionable utility, and that its indiscriminate employment has done far more harm than good, especially when continued for any length of time. I cannot withhold the opinion that from its use both ovaritis, salpingitis, and peri-uterine inflammation have actually been set up by the overheating and the subsequent chilling of the pelvic organs. The crucial test of surgical research which cannot be gainsaid has shown that cellulitis is almost a myth, and that what have long been deemed exudation tumors and inflammatory deposits in the areolar tissue, are tubal and ovarian lesions.

I have learned to unlearn the idea—and this was the hardest task of all—that uterine symptoms are not always present in cases of uterine disease; or that, when present, they necessarily come from the uterine disease. The nerves are mighty mimes, the greatest of mimics, and they cheat us by their realistic personations of organic disease, and especially of uterine disease. Hence it is that even seemingly urgent uterine symptoms may be merely nerve-counterfeits of uterine disease. I have, therefore, long since given up the belief, which with many amounts to a creed, that the womb is at the bottom of nearly every female ailment.

Nerve-strain, or nerve-exhaustion, comes largely from the frets, the griefs, the worries, the carks and cares of life. Yet, although the imagination undoubtedly affects it, it is not a mere whim or an imaginary disease, as all healthy women and most physicians think; but it is the veriest of realities. When some flippant talker or some slipshod thinker scoffs at nervousness as a sham disorder, I say to him: "Can the bribe of a principality keep you from blushing when you are ashamed, or from blanching when you are afraid? Under the flitting sense of shame or of fear these vasomotor disturbances are momentarily beyond your control; and so they are in the nervous woman, whose vital organs are, as it were—not transiently, but—perpetually blushing and blanching under deficient brain-control over the lower nerve-centres."

Strangely enough, the most common symptoms of nerve-disorder in women are the very ones which lay tradition and dogmatic empiricism attribute to womb-disease. They are, in the order of their frequency, great weariness, and more or less of nervousness and of wakefulness; inability to walk any distance and a bearing-down feeling; headache, nape-ache, and backache; scant, or painful, or delayed, or suppressed menstruation; cold feet, and an irritable bladder; general spinal and pelvic soreness, and pain in one ovary, usually the left, or in both ovaries. The sense of exhaustion is a remarkable one; the woman is always tired; she passes the day tired, she goes to bed tired, and she wakes up tired, often, indeed, more tired than when she fell asleep. She sighs a great deal, she has low spirits, and her arms and legs become numb so frequently that she fears palsy or paralysis. There are many other symptoms of nerve-strain, but since they are not so distinctively uterine, and, therefore, not so misleading, I shall not enumerate them.

Now, let a nervous woman, with some of the foregoing group of symptoms recount them to a female friend, and she will be told that she has womb-disease. Let her consult a physician, and ten to one he will think the same thing and diligently hunt for some uterine lesion. If one be found, no matter how trifling, he will attach to it undue importance, and treat it heroically as the peccant organ. If no visible disease of the sexual organs be discoverable, he will lay the blame on the invisible endometrium or on the unseeable ovaries, and continue the local treatment. In any event, whatever the inlook or the outlook, a local treatment is bound to be the issue.

Until my eyes were opened to the harlequin tricks of the nerves, I have repeatedly made the same mistake, and I now see it made over and over again by other physicians. To give but two recent instances out of very many:

Not long ago a lady was sent to me by a very intelligent physician to have a cervical tear repaired. She had been seen by several physicians, all of whom had treated her locally, and all had concurred in the opinion expressed by my friend. Her most pronounced symptoms were insomnia, unending weariness, excessive nervousness, great dread of being alone, severe bearing-down, painful locomotion, constant backache, and an extremely irritable bladder which gave her no peace day or night.

She had in addition most of the canonical uterine symptoms. Being sure that a comparatively trifling tear of the cervix could not give rise to so many exacting symptoms, although she herself attributed them to this cause, I closely cross-questioned her, and soon discovered the source of the mischief. After a rather difficult labor—her sole one—she had given birth to a still child. This was a great disappointment, yet she was convalescing naturally, when a great conflagration broke out in her city. After destroying most of this city it swept onward toward her house. Her valuables were hastily packed up, and she was bundled up ready to be carried away at a moment's notice. Fortunately the fire was put out at the second house from hers. Since then she had never been well.

It was not the cervical tear that had wrecked her health, but disappointed motherhood, and the noise, the tumult, the fear, the long-drawn-out agony of suspense.

The second case gave the following history:

She was aged forty-two years, and was the mother of one child, now twelve years old. She had sharp pain in the right ovary, burning aches in the left one, and difficult locomotion. A sensating of tingling, prickling, and stinging heat pervaded her whole left side. Her left eye had wavering vision, as if she were looking through heated air. The catamenia, formerly scant and painful, were replaced by an abundant leucorrhœa. Her bladder was irritable and needed emptying day and night. She was tired all the time, lay awake most of the night, and her sleep was troubled by distressing dreams. A well-known oculist had cut the muscles of her eyes, several physicians had treated her locally off and on for many years, and she was now sent to me to decide the question of the removal of her ovaries. The womb lay in the first stage of retroversion, there was some endometritis, and the left ovary was tender and reachable. Finding, as in the foregoing case, that her symptoms were out of all proportion to the local lesions, I suspected nerve-trouble, which her history confirmed. Ten years ago, while sailing with her husband across a lake, a storm overtook them. The boat filled with water and, after a desperate struggle, they barely reached the shore. Two years later her nerves, still much shaken by this narrow escape from drowning, received another shock. A burglar broke into her home, and her husband had, in her hearing, a fierce and noisy hand-to-hand fight with him. One more year passed, and she met with a railroad accident, in which twelve persons were killed, but she was uninjured. This final shock completely shattered her nervous system, and she was plainly suffering from a sore brain, and not from sore ovaries. In one word, it was the old, old story of wounded nerves counterfeiting a wounded womb.

I have learned yet another trick of the nerves: that when riotous from being under-fed, from overwork, or from lack of discipline, they billet themselves, like an insolent soldiery, on some maimed organ and hold high revel there. For instance, a woman, hitherto in perfect health, may have an adherent or a dislocated ovary, or a torn cervix, or a narrow cervical canal, or a slight displacement of the womb—lesions which may have given her no appreciable trouble whatever. But let her nervous system become unstrung, and at once, through disturbances in the circulation both of the nerve-fluid and of the blood-fluid, there set in vesical, uterine, or ovarian symptoms, which may indeed reach so exacting a pitch as to demand a local treatment. Nor are the sexual organs the only ones thus affected. Every weakened organ in the body is liable to such functional outbreaks. The stomach rejects its food, the bowels either refuse to act or else they are very loose, the heart loses its rhythm and beats irregularly, the vocal cords relax and the voice cannot be raised above a whisper, and almost every sphincter muscle in the body behaves as if it were insane. I have known a woman in her nervous attacks to become as jaundiced as if she had the liver of a Strasburg goose. The yellow color was fugitive, but it lasted longer than the emotion that caused it. Even the eyes, which before may have exhibited to their owner no visual defect, now blink painfully at the light or may cause violent headaches, which glasses alone can allay. In the following case various organs were thus affected:

An unmarried lady in splendid health and with a magnificent physique, had unusual muscular strength, which she was fond of testing. One day, while wrestling with her brother, which she often did, she felt something give way in the pelvis, and shortly after this her health began to fail. Her monthly periods, hitherto painless, now gave her acute suffering, and a persistent leucorrhœa soiled her linen. The left ovary throbbed with a constant ache, walking became painful, the bladder grew irritable, and the stomach began to reject its food. From sluggish circulation, local congestions took place, particularly in the head and in the pelvis. Thus, when she stood up, the pelvic organs seemed to fill up with blood and painful pelvic throbs beat time with her pulse. From these she got relief by sitting with her knees raised up, or by lying with her feet higher than her head. Soon insomnia, photophobia, and dreadful headaches set in. These were followed by illusions when her eyes were closed, which vanished when she opened them. She heard imaginary conversations and saw unpleasant sights. She became morose and irascible, and kept much by herself; in one word, her mind hovered on that ill-defined borderland between sanity and insanity.

The wrestling episode and her many orthodox uterine symptoms misled every one, including herself, her family, and several physicians, who attributed everything to uterine disease and treated her accordingly. She had much local treatment of the usual kind, and more for supposed anteflexion. Getting no better, she travelled many miles to con-

sult me. My examination of her revealed merely glairy mucus in the cervical canal, some tenderness over the left ovary, which was slightly displaced, and the natural anteflexion of a virginal womb. These lesions were too trivial to account for her lamentable condition, and I looked to her history for an explanation. This clearly satisfied me that she was suffering from nerve-breakdown. This diagnosis was a great surprise to her and to her mother, who accompanied her; but, notwithstanding her contrary convictions, she entered my private hospital. With the exception of a few douches of corrosive sublimate for the leucorrhœa, her uterine organs were let severely alone, and she was treated merely for her nerves. Her friends were greatly dissatisfied with this treatment, and at their instance a near medical relative wrote me a letter in which, after criticising my treatment, he urged upon my attention the wrestling match and the uterine character of the symptoms. At the end of six weeks she left me very greatly improved in every respect, but as her headaches still troubled her more or less, I asked Dr. de Schweinitz to examine her eyes. He found some astigmatism in one eye, and "the highest degree of hypermetropia which he had ever seen, excepting in two other cases." Suitable glasses remedied these defects, and she afterward progressively improved—so much so, that eight months later I received from her a most grateful letter of thanks. Further, the physician himself who had criticised my treatment of her, wrote me quite recently, that he was about to send me a patient with analogous symptoms, who had been unrelieved by a long course of uterine treatment.

Just as headache does not necessarily mean brain disease, so ovary-ache does not necessarily mean ovarian disease. Yet time and again—and I say this deliberately—have ladies been sent to my private hospital to have their ovaries taken out, when the whole mischief had started from some mental worry. Their ovaries were sound, but their nerves were not, and no operation was needed for their cure. So misleading, indeed, are the symptoms of a jaded brain or of other nerve-strain, under the uterine livery in which they are often clad, that I have recently known a jilted maiden to be treated by a cup-and-stem pessary, and a bereaved mother to be douched and tamponned and cauterized for a twelvemonth. Such cases, even when accompanied by actual uterine disease, are not bettered by merely local treatment. Nor are medicines by themselves of much avail. What they need is massage, perhaps electricity, and that freedom from care which strict seclusion gives. Hope should be infused into every case, and, above all, there must be imported into it the personality of the physician. It was not the staff of the prophet that awakened the dead child; but death was quickened into life when the prophet threw himself upon its body and breathed into it of his own intense vitality.

As the outcome of much that I have learned to unlearn, I have arrived at this very short gynecological creed: I believe that the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny, will touch her well-being at more points and with a keener perception of its wants, than the one who holds the opinion that woman is woman because she has a womb.

TUBERCULOUS DISEASE OF THE TARSUS.[1]

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AMONG the joints affected by the tubercular process, those of the tarsus are involved in about ten per cent. of all cases. If in the present paper, I nevertheless venture to limit my remarks to this somewhat neglected field of joint-surgery, it is for the following reasons: (1) Because in no other portion of the skeleton, with the possible exception of the wrist, is disease so liable to spread from part to part, assuming a progressive type and generally terminating only after a number of years with partial or complete loss of the affected parts; (2) because in tarsal disease the influence of age on the progress and termination of tuberculosis of bone finds an excellent illustration; and (3) because in disease of no other part of the skeleton are the questions of how and when to operate, if operation be at all desirable, more difficult to answer.

Tuberculous disease of the tarsus, as commonly encountered, presents itself as an infiltration limited for a longer or shorter period of time to a single bone of the anterior or posterior row. Even here it appears to have a preference for certain bones, the cuboid of the anterior and the os-calcis of the posterior row being, in my experience, most frequently primarily involved. The greater weight brought to bear on these bones in walking, and their position, exposing them to injury, may account for this preference which doubtless exists. The extent of the joint-connections of a bone or a part of a bone, which is the seat of the disease, becomes a direct index of the rapidity of its extension. Thus the most favorable cases of the appended table were those in which the disease was limited to the os-calcis and the posterior calcaneo-astragaloid joint. A further reason for limitation to the heel-bone is in the large surfaces below, posteriorly, and on either side which are uncovered by ligaments and, therefore, permit the early evacuation of abscesses, the absence of subligamentous tension preventing the spread of disease. Far less frequent is extension forward toward the calcaneo-cuboid joint or the anterior calcaneo-astragaloid joint and its prolongation between the

[1] Read before the Mississippi Valley Medical Association, Louisville, October, 1890.

astragalus and scaphoid. When the latter direction has been taken the disease may easily spread around the astragalus and involve the ankle, or, affecting the scaphoid, may extend into the common tarsal sac. It is not until late in the disease that such extension takes place. In the case of a boy of eight years the disease remained limited to the calcaneum, notwithstanding one curetting done in New Orleans and another by myself two years later. In another case the disease remained limited even after five years.

In disease of the anterior tarsus the process is less likely to be localized. Made up of small bones, covered on many sides by cartilage, ensheathed in short and unyielding ligaments, the anterior division of the tarsus is an admirable place from which the disease may spread from bone to bone and from joint to joint, until each of the many is involved. The synovial membranes, if not primarily affected, are early filled with fungoid growths. Therefore the tumefied spindle-shaped appearance of the foot usually gives evidence of the nature of the disease long before the presence of sinuses makes the diagnosis certain. Adding to the complications of anterior tarsal disease is the primary or secondary involvement of more or less of the metatarsal bones. In at least two of the cases of the accompanying table the disease began in the metatarsus and remained localized until curetting was done. In the last case, recently operated upon, it could not be determined whether the primary nidus was in the cuboid or fifth metatarsal. When the area of disease was exposed it was found that the whole of the fourth and fifth and part of the third metatarsal were implicated. Finally, cases like that of John A., of the table, are encountered, in which every bone and every joint of the anterior and posterior divisions is involved, and the ankle-joint itself has not been spared. The shapelessness of the foot, the multiplicity of the sinuses, and the extent of bone denudation, as demonstrated by the probe, leave no doubt as to the wide extension of the disease.

The question presents itself, Is tarsal disease ever recovered from without operative interference? Only twice have I witnessed so fortunate a result; once in the case of a child with multiple sinuses leading to the anterior tarsus, and once in an adult, seen with Dr. Ravogli, in whom a very tortuous sinus leading to the astragalus closed permanently, leaving the foot with practically perfect function.

With few exceptions cases of tarsal disease, when pronounced, follow a tedious course, not for months, but for years. Except in two of my cases, in which death resulted from general tuberculosis, from two to five years elapsed before the patients were restored to usefulness, and that minus one foot or with a more or less deformed foot. If the chronological record of treatment of cases of tarsal disease be scrutinized, it will be found the same in each: Six months devoted to embrocations, massage, the ice-bag or immobilization; six months with confinement to room or bed and the opening of abscesses; six months or a year devoted to watching the results of repeated attempts to cure by curetting; six months or a year given to more or less complete excision or amputation, or both. The adult with tarsal disease is deprived of three or four years of usefulness, even if recovery ensues. But in adults a fatal issue is not at all uncommon, death resulting from general tuberculosis, toward the development of which it is more than probable that our efforts to relieve sometimes contribute.

Far less gloomy is the outlook in tarsal disease of children, since in them its tendency is greater toward localization. The resistance of the surrounding structures is less than in adults. Abscesses are therefore more readily treated, and, more than all, there is the inherent recuperative power of the tissues in early life. Curetting or the informal excision of the diseased part usually relieves the difficulty and sooner or later the child recovers with a useful foot. I have never seen a case of tarsal disease in a child that required amputation, nor do I know of such a case in the experience of my friends.

In the management of tarsal disease that of early life must therefore be nicely differentiated from that of adults. In the former orthopædic appliances, improved hygienic surroundings, and fresh-air treatment can be more readily obtained, and economy of time is not so important an element as later in life.

To curtail the miseries of an adult with tarsal disease, recourse may be had to the following measures:

1st. Scraping away the tuberculous infiltration, or *évidement* of the carious bone.

2d. To more or less formal excision of one or more of the bones of the tarsus; and,

3d. To amputation.

Is *évidement* or curetting of caries of the tarsus followed by recoveries? Certainly not often, except in children, and I have known it to do positive harm. I may be permitted to report briefly three cases in illustration:

CASE I.—Mrs. R., aged forty-two years, seen with Dr. Schneider in 1885, had for two years a sinus on the inner side of the foot leading to a carious astragalus. Though lame, she was fully able to attend to her household duties, and her general health was good. In April I scraped away what I believed to be all of the diseased portion of the astragalus and os-calcis. There was no septic infection, but the wound did not heal. During the summer, abscesses followed by sinuses, developed

over the scaphoid. The patient was now confined to bed.

On October 8th, I made a formal excision of the posterior division of the tarsus, and of the cuboid and scaphoid. The wound again failed to heal. The continuous drain on the system, the prolonged confinement, and possibly the mechanical manipulation incident to the operation, induced pulmonary disease. On January 3, 1886, amputation of the leg was done. The wound healed kindly, but six months later the patient succumbed to phthisis.

CASE II.—R. M., a laborer, in the poorest circumstances, seen with Dr. Carr. No history of tuberculosis. He had been in a hospital for six months. There was fungous disease of the anterior division of the tarsus, but no sinus was present. The patient insisting on an early operation, I removed, by scraping, the greater portion of the cuboid bone. The wound failed to close. A rapid development of disease in parts untouched by the operation led me to make a formal excision of the entire anterior tarsus by lateral incisions. Five months later recurrence ensued, and within less than a year after the first operation the patient died of pulmonary phthisis. The opportunity for an amputation did not present itself.

CASE III.—Ed. R., aged eighteen years, a jeweller, after an attack of scarlatina, developed caries of the first metatarsal of the right foot and of the anterior tarsus of the left. When first seen sinuses had existed on the dorsal surfaces of both feet for two years, during which time, though quite lame, he followed his vocation. The first scraping was done May 8, 1888. On February 5, 1889, excision of the anterior row of the left tarsus, the cuneiform, and the first metatarsal bone of the right foot was performed. The latter wound closed. On January 3, 1890, amputation above the ankle was performed, on account of implication of the posterior tarsus and extensive infiltration of the soft parts. Recovery was speedy, and the patient was working at his desk four months later.

Difficult as the acknowledgment is, it seems to me certain that the operation of scraping caused injury to each of these cases by disseminating the tubercular disease. The operative technique may have been at fault, although to produce ischæmia I use only the Esmarch strap without the bandage. Scraping was not performed during the acute stages; incisions were made as large as needed, and every effort was made to remove all of the diseased structures. But *évidement* has failed me and the tubercular deposits left *in situ*, increased, and were disseminated after, if not as a direct result of, the operation. Experience justifies me in holding the view that curetting in the tarsal disease of adults is an operation replete with danger.

Far more encouraging are the results obtained from early and formal excisions, particularly if the disease be limited to only a part of the tarsal framework. Until the very admirable work of Kappeller, of P. H. Watson, and, last but not least, of my friend Dr. Conner, the utility, not to mention the justifiability, of the operation was questioned. In the accompanying table cases are recorded in which one or several bones of the tarsus were excised with fair and even with good results; yet, as will be seen in several, probably because they were done at a later period, the final results were unfavorable. Excision, limited to one or two bones, is practically devoid of danger, and the early removal, particularly of the anterior tarsus, where the disease is oftenest found, leaves a shortened foot, but a limb of normal length.

Concerning the best method of operation there should, in my judgment, be no question. The unilateral or bilateral incisions, though they save the tendons, afford but a poor opportunity to inspect the field of disease, and if all of it is removed, it is largely due to good fortune. On the other hand, by a free incision directly across the dorsum dividing the tendons, an inspection of the entire field of operation is permitted, and every vestige of disease can be removed. If thought best, one or two longitudinal incisions can be made over the metatarsal bones, and as much of the bones as need be can be removed. In one case that was operated upon the wound healed by primary union, and three weeks after the operation there was good motion of the toes. This and another of my cases has caused me to doubt the necessity of suturing the tendons. Unless the tendons are looped before division, their suture after the excision is extremely difficult, the upper segments being so retracted in their sheaths that attempts to withdraw them generally fail. It is probable, however, that when tendon-suture is practised a more useful foot is retained. In England, Holmes and Wright favor this dorsal incision, and in Germany Bardenheuer reports nineteen such operations, yet in three of them death resulted from general tuberculosis.

But removal of the whole or a greater portion of the tarsus is attended by a very considerable danger to life. According to Conner, the death-rate under fifteen years of age is 6.67 per cent., between fifteen and twenty-five years 10 per cent., and over twenty-five years 27.27 per cent. The latter mortality is, in my judgment, greater than that of amputation through or above the ankle. Unfortunately, as against this increased risk of life and the greater duration of treatment from late excision, there is no proportionately increased guaranty of immunity from recurrence. Even with the advanced operation of Wladimiroff-Mikulicz, the hope that a definite cure could be obtained because the operation is performed in healthy tissue has been frustrated. In five of the cases of Fisher, four of Zesa's, and one of Rose's recurrence ensued.

From what has already been stated, it is evident

that the third operative recourse in tarsal disease, namely, amputation, should, in my judgment, be resorted oftener and earlier to than has usually been done. In other words, it appears to me that there is a limit to the usefulness of conservatism in advanced disease of the tarsus of adults, and that the preservation of a deformed foot is hardly worth the sacrifice of three or four years of active life. Here, as elsewhere, every case is a problem, the solution of which must be largely influenced by the sex, vocation, social position, hygienic surroundings, and general condition of the patient.

Name and age. Years.	Date.	Duration of illness.	No. of operations.	Curetting.	Result.	Excision.	Part removed.	Result.	Amputation.	Result.	Remarks.
Arthur R., 4	1882	3 years.	3	2	Failure.	1	Astragalus and tibia.	Perfect.	...	.....	After failure of curetting and thorough drainage, excision was performed.
Herbert B., 8	1883	5 "	3	2	"	1	Os calcis.	"	...	.....	
Jos. B., 11	1885	3 "	1	...	.....	1	Cuboid and ½ of os calcis.	Good.	...	.....	
Mrs. R., 42	1885	3 "	3	1	Failure.	1	Posterior tarsus, cuboid, and scaphoid.	Failure.	1	Died.	Six months later.
Isaac S., 18	1886	5 "	2	1	"	1	Os calcis.	Good.	...	.....	Jewish Hospital.
Allen P., 26	1886	2 "	1	...	.....	1	Second metatarsal and cuneiform.	"	...	.....	Railroad injury.
Thos. M., 40	1886	2 "	2	1	Failure.	1	Anterior tarsus.	Failure.	...	Died.	From phthisis.
Esther A., 7	1886	2 "	2	2	Success.	...	.....	.....	...	.....	Os calcis.
Aug. F., 4	1887	1 "	1	1	"	...	.....	.....	...	.....	Cuboid and 5th metatarsal.
Wm. Burns, 60	1887	1 "	1	1	Failure.	...	.....	.....	...	.....	Refused further interference; sent to infirmary.
Ed. R., 18	1888	4 "	3	1	"	1	Anterior row.	Failure.	1	Recovered.	
	1888	.....	2	1	"	1	First metatarsal and cuneiform.	Good.	...	.....	
Jos. L., 28	1889	1 "	1	..	.....	1	Second metatarsal and cuboid.	Fair.	...	.....	Railroad injury; sinus remaining three months later.
John A., 41	1890	3 "	4	2	Failure.	1	Whole tarsus, tibia, and fibula.	Failure.	1	Recovered.	Cincinnati Hospital.
Kate I., 23	1890	8 months.	1	...	.....	1	Anterior tarsus and third metatarsal.	Good.	...	.....	Jewish Hospital.

Conclusions.—Although the number of cases here tabulated is not large, a few deductions can be made. Of 30 operations made for tarsal disease there were 15 of *évidement*, of which but 2 were successful, and these were children. In 6 the curetting was followed by an exacerbation of the previous difficulty. Of the 12 excisions, 4 were primary, and in 3 the operations were made before sinuses had formed. In these primary operations the repair was more rapid than in those in which curetting had previously been done. Four of the excisions were failures, in 3 from recurrence of the disease, and in the fourth from the uselessness of the foot. While no deaths were directly attributable to tarsal disease, death resulted in 2 of the cases from general tuberculosis, which might have been avoided by a primary excision, or more certainly, by early amputation.

THE TREATMENT OF CROUP WITH SPECIAL REFERENCE TO TRACHEOTOMY AND INTUBATION OF THE LARYNX.[1]

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A FEW years ago I read before the Philadelphia County Medical Society a paper upon "Tracheotomy in Diphtheritic Croup." Since that time my experience with the operation has been considerably enlarged, and I have also had some experience with the more recently introduced operation of intubation of the larynx in the treatment of such cases.

I think that the vast majority of cases of croup coming under my observation were diphtheritic, but I have also seen a number of patients in whom the disease might be considered as true or simple croup, which seemed to me to be the result either of catarrhal laryngitis or of œdema of the larynx.

The symptom calling for operative interference

[1] Read before the Philadelphia County Medical Society, November 12, 1890.

in croup is a form of obstructive dyspnœa characterized by suppression of the voice, great difficulty of inspiration, lividity of the lips, depression of the supra-sternal and supra-clavicular spaces, sinking in of the lower part of the chest, inability to breathe while in the recumbent posture, restlessness and inability to sleep except at very short intervals. When these symptoms are present and are increasing, I think that some operative interference is urgently indicated.

I would here call attention to the dyspnœa which is often observed in patients suffering from diphtheria, pneumonia, capillary bronchitis, or congestion of the lungs, and which differs from the form of obstructive dyspnœa that I have just described in being accompanied with very rapid respiration, and in failing to present the symptoms so marked in obstructive cases.

These cases I am often asked to see with regard to the question of surgical interference, but in such cases there is manifestly no indication for operative treatment, as the dyspnœa results from diminished air-space in the lungs, and not from a localized obstruction high up in the air-passages.

Inability to sleep I consider an important symptom in deciding as to the advisability of operative interference, whether by tracheotomy or by intubation of the larynx. This is a clinical observation which I made some time ago, and which Mr. Hewitt explains as follows: During ordinary sleep the activity of the diaphragm is lessened, the centres which preside over it enjoying comparative rest, while in obstructive dyspnœa the patient, to a great extent, depends upon the increased action of the diaphragm, so that natural sleep is generally impossible, except at short intervals.

Although the symptoms of dyspnœa may be marked and increasing, if the patient is able to sleep for half an hour or an hour at a time, I am inclined to employ a method of treatment, which I will describe, before I resort to either tracheotomy or intubation.

When I see a case of croup comparatively early in the disease when the symptoms are not so urgent as to demand immediate operative interference, I also employ this course of treatment which, I feel sure, often averts the necessity of operative procedure. If the case be one in private practice, I have the patient put in a room in which there is a stove, and upon this is kept constantly boiling a large pan of water to moisten the air. If the room is heated by a furnace, I use a gas-stove or alcohol lamp to heat the water and accomplish the same purpose.

I give the patient internally:

℞.—Carbonate of ammonium . 2 grains.
Syrup of senega . . 10 minims.
Mucilage of acacia . . 2 drachms.—M.

To be given every two hours unless the patient vomits, in the event of which I diminish the frequency of the dose.

I also frequently employ a steam atomizer, in the receiver of which is the following solution:

℞.—Sodium carbonate . 1 to 2½ drachms.
Glycerin . . . . 2 ounces.
Water sufficient to make . 4 "

This solution was first recommended by Mr. Parker, of London.

If the patient is old enough to be manageable he should inhale the vapor from this for a short time, at intervals of fifteen or twenty minutes. If the patient is unruly or so young as not to be able to inhale the vapor, I have the bed converted into a tent by the use of a few sticks and a sheet, under which the steam atomizer is kept in operation, the spray being directed as near to the mouth as possible. It is surprising how willingly a comparatively young or unmanageable child will take the mouth-piece of the atomizer into his mouth and inhale the vapor after he has once done so, and has experienced the relief which follows its employment. If there is reason to think that the case is one of diphtheritic croup the patient is given in addition either calomel in small doses, bichloride of mercury, or any other drug which may be considered advisable.

Of the utility of this form of treatment in the early stages of croup, I have the highest opinion, for under its use I have frequently seen cases which were beginning to exhibit symptoms of marked dyspnœa gradually improve and cough up pieces of membrane or masses of muco-purulent matter, and in twelve or twenty-four hours be entirely relieved of dyspnœa and subsequently make an uninterrupted recovery.

My experience therefore leads me to recommend some such form of treatment in the early stage of croup if extremely urgent symptoms are not present, and I do not feel that everything has been done before resorting to operation unless this plan has been instituted.

If in spite of the treatment which I have described the symptoms of dyspnœa become more urgent and assume the characteristics which I have previously pointed out, I then consider that operative interference is indicated, bearing in mind the fact that an operation—either tracheotomy or intubation—is only a mechanical procedure to relieve the dyspnœa. Personally I am not in favor of very early operation, for as I have before stated, under the treatment described I have often seen the dyspnœa relieved and recovery follow.

If the symptoms presented are of such a nature as to call for surgical interference to relieve the dyspnœa, I consider several points in deciding as to which operation to employ. If the dyspnœa has

existed for some days and is increasing; if there are patches of false membrane on the pharnyx; and if the patient exhibits marked constitutional evidences of diphtheria, I am inclined to recommend tracheotomy in preference to intubation. If, on the other hand, the dyspnœa has existed for a short time only, and if there is no false membrane in the pharnyx or sputa, although the dyspnœa may have increased rapidly, I generally recommend intubation, for it is in these rapidly-increasing cases of dyspnœa that intubation is an especially useful procedure.

The reason of my preference for tracheotomy in cases of slowly-developing dyspnœa is that in these there is usually a well-organized membrane in the larynx and the trachea, which may extend below the lower end of the intubation tube, or which may be pushed in a mass before the tube, suddenly occluding the trachea and arresting the entrance or exit of air. So much do I fear this accident, which has occurred in the hands of some surgeons, that I never introduce an intubation tube without having at hand the instruments necessary to perform tracheotomy

I also explain to the parents or to the friends of the patient that the first operation may not relieve the patient, and that a second operation (tracheotomy) may be required, and obtain, if possible, their permission to perform the latter if it should be indicated. In cases in which there is a well-organized membrane the masses that loosen may be too large to pass through the comparatively small opening in the intubation tube, and if the tube is not forced out by the expiratory efforts of the patient or removed by the surgeon or nurse, death may rapidly ensue. For this reason I leave the string attached to the intubation tube in place for a few hours, to facilitate its rapid removal if the occasion occurs.

After a case has been intubated or tracheotomized, I do not relax the local or constitutional treatment which was previously instituted; I continue to use the alkaline spray already mentioned, and if the case progresses favorably I remove the intubation tube at the end of the third or fourth day; and if the dyspnœa does not recur I do not reintroduce it. If, however, the dyspnœa recurs in a short time I reinsert the tube, and again remove it in a few days; and the second attempt is, I find, generally successful. After removing the intubation tube I continue the use of the alkaline spray for a few days.

One of the most serious objections to intubation is the trouble in nourishing the patient due to the difficulty of swallowing fluids while the tube is in the larynx; but occasionally patients will be found who can easily swallow fluids. I usually order a diet consisting chiefly of semi-solids, such as soft-boiled eggs, corn-starch and rennet; and if there is difficulty in swallowing these, I depend largely upon nutritious enemata. Thirst can be allayed by swallowing pieces of ice. The stomach-tube may be used to introduce nourishment in case the rectum becomes too irritable to retain the enemata. In some cases by allowing the head of the child to be lower than the body, and giving liquids while in this position, it will be found that they can be swallowed without difficulty. I have found that hoarseness persists for some time after the removal of intubation tubes.

If, as sometimes occurs, intubation fails to relieve the dyspnœa, or relieves it only temporarily, I resort to tracheotomy, and I have had recovery follow in such cases. If tracheotomy becomes necessary, the operation may be performed while the intubation tube is in place, removing the tube after the trachea is opened, if it interferes with the introduction of the tracheal tube.

The details of the operation of tracheotomy are so well known that I will not repeat them. Another reason for my preference for tracheotomy in the slowly-developing cases of dyspnœa, is that by a free opening into the trachea the membrane can be removed, and if the obstruction is in either the trachea or the larynx, the opening completely relieves the dyspnœa and gives the patient a full supply of air, until the separation of the membrane in the larynx occurs.

A number of cases after either intubation or tracheotomy develop recurrent obstruction due to extension of the membrane to the bronchial tubes, or to the development of a broncho-pneumonia, and in such cases further operative treatment is useless. These cases are characterized by dyspnœa of the type I have previously described, rapid respiration being the principal feature.

I do not think that a larger number of cases can be saved by intubation than by tracheotomy; in my personal experience the larger proportion of recoveries has followed tracheotomy.

In conclusion, I would say that in intubation of the larynx we have added a valuable surgical procedure to our means of treating croup. I think it is especially to be recommended in those cases which I have described as cases of rapidly-developing dyspnœa in which the obstruction is probably due to a slightly-developed diphtheritic membrane, to œdema of the larynx, or to catarrhal laryngitis. I do not think that intubation of the larynx is an operation entirely free from danger. Intubation has the advantage of being a bloodless operation, and practically without pain, and for this reason the friends of the patient will often consent to intubation when they would refuse to have tracheotomy performed.

The management of cases after intubation is comparatively easy, with the exception of the difficulty of nourishing the patient.

In very young children, in whom the results of tracheotomy are not so favorable, I think intubation should first be employed, unless some contra-indication exists.

Tracheotomy generally completely relieves the dyspnœa, and allows the surgeon to clear the trachea of membrane, and is, therefore, to be preferred in slowly-developing cases of dyspnœa in which there is apt to be present a well-developed diphtheritic membrane in the larynx or trachea. If carefully performed, there is comparatively little risk in the operation itself. Patients after tracheotomy have little difficulty in taking a full supply of liquid nourishment, which certainly is most urgently indicated in an asthenic disease like diphtheria, and it is in this disease that the operation is most frequently called for.

EPIDIDYMITIS CAUSED BY ABDOMINAL STRAIN.

BY EDWARD MARTIN, M.D.,
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ALTHOUGH it is undoubtedly true that the vast majority of inflammations involving the epididymis are dependent upon the extension of gonorrhœal infection through the vas deferens, it is well recognized that epididymitis may be produced by a number of other causes; thus traumatism, gout, rheumatism, malaria, and tubercle may all provoke a local inflammation of great intensity in this region.

In addition the physician will occasionally meet cases in which the possibility of all these causes is positively denied, and yet in which the symptoms of an active inflammation of the epididymis are present. The patients usually ascribe this condition to a strain or a violent lifting effort.

It is certainly true of the writer, and probably of the vast majority of practitioners, that such statements have been received with absolute incredulity, and that the causative agent has always been regarded as a preëxisting gonorrhœa, since this affection is very commonly accompanied by a moral obliquity which seems to render a truthful narration of the history of the case impossible.

Lately, however, two cases have been observed in which the statements of the patient seemed so trustworthy that sufficient credence was given them to make a careful examination, and in one instance, at least, this was so thorough, that the possibility of all the predisposing and exciting factors mentioned above could be absolutely excluded. The history of this case is as follows:

J. T., a porter, aged thirty-six years, is a strongly-built man of medium height. His father died of consumption at the age of fifty-six years; there is no other case of this disease in the family. He has always been strong. He practised self-abuse in moderation until the age of twenty years, when he was married. From the period of puberty he has suffered from a certain amount of sexual weakness, involuntary emissions taking place on slight excitement. This was still noticed after marriage, though to a less extent than before. He has had no venereal disease. Five days before he appeared for treatment, in the evening following a heavy day's work, he suffered from pain located in the lower part of the left testicle, and at the same time swelling was observed. These symptoms steadily grew worse, the pain extending into the groin.

On examination, the right testicle and epididymis were found normal; the left testicle was slightly enlarged and was tender, but still soft and of normal consistence. The epididymis was hard, very tender, and about three times its natural size. The skin over this region was hot and red.

An examination of the urethra showed the absence of stricture; no pus could be detected upon the instruments when they were withdrawn. A careful microscopical search of the urine was made, but no pus or albumin could be found. Rectal examination showed a slightly-enlarged prostate, moderate pressure upon which produced a desire to urinate. The seminal vesicles could not be felt. The lungs were found to be normal on examination. The patient had not suffered from rheumatism or malaria.

Two days later the swelling had increased, involving the testicle; the pain on standing or walking was severe. A Langlebert suspensory bandage was applied; this gave the patient almost immediate relief and enabled him to resume his work. This treatment together with careful attention to the condition of the bowels was sufficient to accomplish a speedy cure.

In the other case observed, an opportunity to make an examination sufficiently thorough to exclude absolutely the presence of posterior gonorrhœa was not offered, hence it cannot positively be asserted that it was a case of strain-epididymitis, though the evidence on the part of the patient was as nearly conclusive as this can ever be.

In the case detailed above we have an instance of epididymitis not associated with any of the causes or conditions commonly recognized as factors in the development of the disease. Pain and swelling developed after a hard day's work; neither were especially marked at first, and the latter shortly involved the testicle to a moderate extent. Provided the examination of this patient was carefully conducted, this case alone would establish the possibility of inflammation of the epididymis and testicle following muscular effort, or what has sometimes been called primary epididymitis. This case is not, however, without ample corroboration.

Though little has been written in the English language concerning strain-epididymitis, the affection has been long recognized by French and Ger-

man writers. Thus Velpeau distinctly alludes to it, and following him we have a long list of authorities —Vidal, Curling, Gosselin, Soulé, Richet, Delomme, Coutan, Hamilton, Le Dentu, Pellier, Wagner, Eng. lisch, Hublé, etc. All are practically agreed upon the point that independent of any distinct idiosyncrasy, violent inflammation of the epididymis may be excited by strong muscular effort, particularly when such effort calls into play the muscles of the abdominal parietes.

As to the mechanism by which such inflammation is produced there is a widespread diversity of opinion; thus by some it is held that it is due to pressure upon the vas deferens, others hold that it is due to pressure upon the veins of the cord, and still others that the injury is inflicted by violent contraction of the cremaster muscle, which by suddenly jerking the testicle against the pillars of the external ring, causes a bruising of the latter, often accompanied by a rupture of the veins. This is called by the French the *coup de fouet*, or whip-snap action.

According to Roux, the theory of compression of the cord and its veins is made probable by the existence of certain fibres which pass from the rectus muscle to the inner lip of the iliac crest. When the abdominal muscles are thrown into sudden violent contraction, these fibres participate in the motion and, in pressing the cord upward, pinch it against the fibrous circumference of the external abdominal ring.

The general consensus of opinion, however, and this is particularly the case with recent writers, strongly inclines to the theory that the cremaster muscle alone is the direct cause of the inflammation.

That this muscle is capable of very vigorous contraction cannot be doubted. Thus it is not rarely observed that direct trauma of the testicle is followed by marked retraction of this organ, so that it may be drawn into the inguinal canal, or even into the abdominal cavity. Even in severe pain, such as that which accompanies renal colic, the testicles are frequently found in close apposition to the external ring, while anyone can observe the contraction of the cremaster by noticing the motion of one or both testicles during the passage of a catheter. Certain cases of chorea of the testicle are at times observed when this organ is moved by the cremaster with considerable rapidity and violence.

Richet, while acknowledging the important *rôle* played by the cremaster, believes that the result produced by this contraction is due, in the main, to rupture of the veins produced by pressure upon them. The majority of writers strongly favor the "whip-snap" action of the cremaster, and the consequent bruising of the epididymis and testicle as the cause of the subsequent inflammation.

According to this theory, then the cause of this form of epididymitis and orchitis is precisely the same as is the case when a blow is received upon this region.

Experimentally, it is found that the violence of traumatic orchitis and epididymitis is directly proportionate to the amount of injury inflicted, and that where the trauma is at all severe there is nearly always extravasation of blood, not only beneath the fibrous tunic of the testicle and epididymis, but into the parenchyma of these organs, particularly of the latter. It is also observed that the inflammatory symptoms following direct violence do not always immediately appear.

In the form of orchitis and epididymitis under discussion, it would seem that much the same lesions occur as when these parts are bruised by external violence. That there is frequently extravasation of blood can at times be confirmed by examination. The inflammatory symptoms are marked, but come on slowly.

Although this theory as to the cause of epididymitis from muscular strain is almost universally accepted, there are several powerful arguments against it. In the first place, direct trauma, even when not of sufficient violence to excite marked inflammatory symptoms of the testicle or its appendages, is immediately followed by agonizing and unbearable pain. If the mechanism of a spontaneous inflammation were that described above, and according to the whip-snap theory the violence is just as direct as though the testicle had been struck with a club, the histories of reported cases should uniformly mention the presence of such pain. This symptom is, however, conspicuous by its absence. There is often observed a sharp, sticking sensation, or a pain of moderate severity, but never that which characterizes pain of the testicle.

Again, muscular fibres are not capable of indefinite contraction; they can shorten to a certain extent, but beyond this no diminution of their length is possible. By the time the testicle has reached the external ring, it would seem that the contractile power of the cremaster must have practically reached its extreme limit, and hence it is difficult to conceive how this muscle is able to exercise sufficient pressure upon the testicle to produce serious lesions by bruising it against the columns of the ring.

Upon the "whip-snap" theory alone it is hard to explain why the affection should exert such a decided predilection for the left side. Of Englisch's seven cases, in six the left testicle and epididymis were involved—the seventh was bilateral. In the case reported in this paper the left testicle was involved, and other observers concur in this observation.

There is, however, a theory, the *rationale* of which

is much more readily comprehended, and which would account for the appearances observed in at least the great majority of the reported cases.

The spermatic plexus of veins is peculiarly under the influence of intra-abdominal pressure; the vessels are provided with but few and imperfect valves; are feebly supported by the surrounding tissues, and hence are especially subject to disease. Thus varicosity of these veins is one of the most common surgical affections, and the effect of the contraction of the abdominal parietes and the diaphragm upon these dilated veins is so marked, that succussion on coughing, or straining in any way, is sufficiently distinct to simulate that of an omental hernia.

Given, then, a sudden and violent increase of pressure in these vessels, it is perfectly possible to conceive that rupture may take place, even though they be healthy; this is of course more probable if they are weakened and dilated. Such rupture would naturally take place in the cord, in the epididymis, or even in the substance of the testicle. And if the theory of venous rupture from pressure is correct, we would expect the left testicle to be most frequently involved, as veins of this side are most frequently varicose, and we would expect the pain first to be slight and gradually increase, as more blood was effused and inflammatory symptoms developed.

Now these are the very conditions which characterize inflammation of the epididymis following muscular effort, and on this basis we think we have sufficient explanation for the occurrence of this affection without attributing any causative *rôle* to cremasteric contraction, although the latter may play a subsidiary part.

One of Englisch's cases strikingly illustrates the probability of this theory. The patient, a laborer, nineteen years old, while working, suddenly felt a sharp sticking pain in the left scrotum; at the same time there was a discharge of blood from the anus. Shortly the characteristic local and general symptoms of orchi-epididymitis developed. Here effort called into play the muscles of the abdominal parietes; this increased the intra-abdominal pressure. As a result of this, there was increased tension upon the veins of the rectum or anus and those of the pampiniform plexus. Evidently some branch of the hæmorrhoidal plexus gave way under the strain, and there was free bleeding. Why it is necessary to ascribe the testicular symptoms to bruising of this organ against the columns of the external ring rather than to rupture of a vein, is not explained by Englisch.

From the cases of epididymitis under discussion it is necessary to separate carefully instances of inflammation dependent upon latent disease, such as tuberculosis and malignant tumor. Here it is not uncommon for the patient to notice first some trouble about the testicle immediately after violent exertion, though such trouble has in reality existed for some time.

It is well recognized that gonorrhœal epididymitis or orchitis is peculiarly prone to appear in those who are forced to undergo severe and prolonged labor, and that this complication develops after the disease has invaded the posterior portion of the urethra; hence an examination of the meatus for discharge is, in cases of absence of the latter, not sufficient to exclude gonorrhœa as the cause of the intra-scrotal inflammation. The urine must be carefully examined for pus, and, moreover, the urethra should be explored to prove the presence or absence of stricture.

The prognosis of epididymitis or orchitis following increased intra-abdominal pressure from muscular contraction is exceedingly favorable. The treatment consists in keeping the bowels open and in the application of those agents most powerful in causing absorption of blood-clot and inflammatory exudate, namely, moisture, warmth, and pressure. This is accomplished by a modified Langlebert bandage,[1] which I employ in all cases of epididymitis, and which has yielded uniformly satisfactory results. The bandage is made in the form of an ordinary suspensory-bandage, but less pouched than those found in the shops. The part covering the scrotum is made of mackintosh. A wedge-shaped piece is cut out from each side of this, and lacings are arranged so that the edges of this V may be brought together. The scrotum is enveloped in a thick layer of absorbent cotton, the suspensory-bandage is adjusted, and, finally, the lacings at the sides are drawn in until tight, uniform pressure is exerted on the swelling. The mackintosh prevents evaporation and keeps the parts moist, the cotton preserves the heat, and by means of the gores at the sides of the bandage the pressure can be accurately adjusted. Even in gonorrhœal epididymitis this dressing commonly enables the patient to resume his work in a few hours, and in the form of inflammation under discussion it is equally satisfactory in its effect.

From a careful study of the literature of the subject, the following conclusions seem justifiable:

1. Epididymitis, orchitis, or orchi-epididymitis, may develop as the result of violent or prolonged muscular exertion, without the intervention of any of the commonly recognized predisposing or exciting factors.

2. Such exertion as is accompanied by strong contraction of the muscular parietes of the abdomen is particularly liable to be followed by this form of inflammation.

[1] This bandage is made for me by Mr. Lenz, of Philadelphia.

3. It is commonly taught that this affection is due to a sudden and violent contraction of the cremaster muscle, which jerks the testicle upward and bruises it against the columns of the external ring.

4. The facts that the left epididymis and testicle are nearly always involved, that the first pain is usually slight, and that this affection commonly develops in those subject to varicocele, show that the inflammation is more probably due to venous bleeding occasioned by increased blood-pressure, which is in itself due to the increased intra-abdominal pressure resulting from contraction of the abdominal muscles.

5. This inflammation usually invades the epididymis, though the testicle also may become involved. The first symptom is pain of moderate severity, often felt in the inguinal region, which is followed by swelling that may not appear for a day or two. The symptoms run an acute course.

6. The treatment consists in careful attention to the condition of the bowels, and in the application of a Langlebert suspensory-bandage. The patient, after the swelling has reached its height, need not keep his bed.

CLINICAL MEMORANDUM.

MEDICAL.

Death from Intra-pulmonary Injection.—The following mishap, occurring among the treatment of phthisis by intra-pulmonary injection, is interesting. During part of the writer's term of service as house physician of the Buffalo General Hospital in 1888–89, a large number of cases of phthisis were treated by intra-pulmonary injections. The medicament used was a three-per-cent. solution of beechwood creasote in oil of sweet almonds. Of this about ten minims were injected at a time into a cavity or solidified apex. In most instances the immediate effects were very encouraging. The expectoration usually decreased, and the temperature, after the slight rise caused by the operation, fell, and continued for a time nearly normal. More than fifty such injections had been made with favorable results, when the following accident occurred:

The patient was well nourished, and under tonic treatment, and the disease seemed to be in abeyance. Three injections had been made, at intervals of four days, into the left apex, followed in each instance by decreased expectoration and marked diminution of evening temperature.

The fourth injection was made by the usual method into the right apex, and the patient immediately after the procedure resumed his duties about the ward. Twenty minutes later he was seized with violent dyspnœa, which gradually became worse. He had formerly suffered from asthma, and the present attack resembled an asthmatic paroxysm. The irritation caused by the drug on the peripheral endings of the vagus seemed to afford a plausible explanation in support of this diagnosis. The usual remedies for asthma were administered, but all failed to give relief. Auscultation was rendered impossible by the violent tossing and groaning of the sufferer. About an hour and a half after the injection the patient died.

At the autopsy the right lung was found entirely collapsed, and the pleural cavity filled with air. The needle in entering the lung had passed through tissue as thin as ordinary writing-paper into an emphysematous space, communicating with a small cavity, which in turn communicated with a bronchus. After the puncture the thinness of the wall prevented it from retracting sufficiently to act as a valve, and the inspired air must have passed almost directly into the pleural cavity.

Cases of pneumothorax have been reported, following intra-pulmonary injection; but all were slight, and ended in recovery. Only one death immediately following this treatment is recorded, and in that case death was due to acute suppurative bronchitis. Had the pneumothorax been diagnosed in my case at the outset of the attack it is possible that surgical interference might have saved the patient. The condition, however, was wholly unexpected, and was not recognized by any of the physicians who examined the case.

The slight benefits following this method of treatment are, in the writer's opinion, secured at too great a risk to make the procedure advisable.

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HOSPITAL NOTES.

PYELO-NEPHRITIS FROM CALCULI—GRADUAL DILATATION FOR CONTRACTED BLADDER —TRAUMATIC TETANUS.

Abstract of a Clinical Lecture delivered at Bellevue Hospital, New York.

BY JOHN W. S. GOULEY, M.D.,
VISITING SURGEON.

BEFORE presenting any patients, Dr. Gouley showed some specimens removed post-mortem from a case of prostatic enlargement and obstruction to urination, with the grave complication of a contracted bladder. He said that if the capacity of the bladder has become increased, no matter how thick the walls may be, there is a prospect that the patient will live a long time; but if its capacity is so diminished that it can hold only one or two ounces of urine, the prognosis is exceedingly bad.

The patient, from whom the specimens were removed, was admitted to one of the New York hospitals last June for cystitis, and was there subjected to the operation of suprapubic cystotomy. An India-rubber tube was introduced and secured in position, with a rubber bag attached to receive the urine. In September he was admitted to Bellevue Hospital. The man thought that the operation had given him decided relief; but this is doubtful, for a catheter retained so long in the bladder, acting as a foreign body, must have become encrusted with phosphates. After admission to Bellevue Hospital his bladder was irrigated once daily, but it was so irritable that not more than two ounces of urine could be retained. The urine was constantly voided through the urethra, in spite of the opening which had been made above the pubes for the purpose of draining the bladder.

The record states that there was no albuminuria, but there should have been some albumin derived from the pus in the urine. Absence of albumin in the urine does not, however, exclude even extensive renal disease. The patient became gradually more feeble and died during the preceding night. The kidneys, both of which were shown, were increased in size, the left being the larger. On section of the left kidney pus was found in its pelvis, and this, together with the condition of the cortical portion, afforded an excellent illustration of pyelo-nephritis. Searching a little further the cause of the existing pyelonephritis was found to be the presence of calculi in the renal pelvis, there being three stones of uric acid, one of which was five-eighths of an inch in diameter, the others were smaller. In the right kidney there was also pyelitis; but the pelvis was not so much distended, and there was no stone. The bladder was about the size of the prostate, and would hold scarcely two ounces of fluid.

The suprapubic operation was done for the purpose of draining the bladder, and yet there was no urethro-vesical obstruction, and the record shows that the urine was passed by the urethra from the time the patient entered the hospital till the day of his death. The operation was a conspicuous failure so far as draining the bladder was concerned. It is well known that where there is calculous pyelitis, and particularly where there is a pyonephritis, the most constant, and sometimes the only, symptom is referable to the bladder. The diagnosis of renal calculus is not easy, unless there is sufficient distention of the pelvis of the kidney to cause a tumor sufficiently large to be detected by the usual methods of physical examination. If a correct diagnosis had been made in this case the only proper operation would have been a nephrotomy, and had such an operation been performed it is likely that the vesical symptoms would have speedily subsided.

In cases in which there is no renal calculus, but simply a contracted condition of the bladder from some other cause, as, for instance, urethro-vesical obstruction from contraction or from prostatic enlargement, much can be done for the comfort of the patient, and in some cases a cure may be brought about by employing the method of gradual hydraulic dilatation of the bladder, just as a urethral stricture would be gradually dilated, substituting for the solid sound the dilating force of water. In carrying out this method of hydraulic dilatation the quantity which is daily injected into the bladder at each sitting is to be increased almost imperceptibly. In this way the twofold object of treatment is attained—namely, keeping the bladder clean, and at the same time increasing its capacity. After a number of weeks or months it is found that the bladder is capable of retaining very much more fluid than at first.

CASE I.—Dr. Gouley then showed a patient as an illustration of this treatment. He first came to the hospital about a year ago, and is now an out-patient. When first seen his bladder was very irritable, and would not hold more than one and a half ounces of fluid. He has been treated at intervals ever since. His general health is now good and his bladder is capable of holding seven ounces of the ordinary solution used for irrigation, which is equivalent to holding eight or ten ounces of urine. Vaginal cystotomy for the relief of a similar condition in the female has been very frequently performed in recent years, but Dr. William M. Polk has stated that he has abandoned the operation, having found the method of gradual dilatation more satisfactory. Other gynecologists have also abandoned vaginal cystotomy and have substituted the more innocuous method of gradual hydraulic dilatation. This method of dilatation of contracted bladders is not new. It was recommended long ago by Civiale, but it does not seem to have been very generally adopted until lately. Fourteen years ago the speaker removed several villous tumors from the urethra of a lady already advanced in years, and supplemented the operation by dilatation of the bladder in the manner just mentioned. Before the operation urination was very frequent, occurring every few minutes, and so painful and distressing that her general health was rapidly failing. As a result of the treatment her bladder was able to hold five or six ounces of fluid and she is now enjoying a hearty old age.

CASE II.—The next patient was an old man, who is said to have had urethral stenosis, which was dilated so that it now admits a No. 12 sound of the English scale, and yet he urinates every half hour. This trouble, then, is not dependent upon the diminution of the urethral calibre, but upon the condition of the bladder. On passing a soft catheter there seems to be some sensitiveness of the urethra, but the bladder, as shown by the quantity of fluid injected, holds five ounces; hence, there is no indication for hydraulic dilatation, and the treatment should consist of sytematic efforts to keep the bladder free from pus by daily irrigation. The following solution is useful for this purpose:

℞.—Bichloride of mercury . . 5 grains.
Ammonium chloride . . 15 "
Spirit of gaultheria . . . ½ ounce.
Sodium borate . . . 1 "
Glycerin . . . . . 8 ounces.—M.

Half an ounce of the above mixture and two and one-half ounces of peroxide of hydrogen solution with seven ounces of warm water may be used for irrigating the bladder.

Dr. Gouley then referred to a case of traumatic tetanus in the ward of his colleague, Dr. Charles Phelps, which he said is a rare disease in New York. The first symptom of the disease made its appearance a few hours before the lecture. The patient is a boy, about sixteen years of age, who ten days previously was caught between cog-wheels and sustained a severe injury of the left lower extremity. Both the popliteal and peroneal nerves were injured, the former so badly that its ends could not be brought together by sutures, as was done in the case of the peroneal. On his admission to the hospital an hour or two after the injury, the wound was found to be in an exceedingly filthy condition, and was cleansed as thoroughly as was possible. No untoward symptoms were noticed until this morning, when a slight trismus or "lock-jaw" was observed. So far there has been no laryngeal spasm. This patient had already been given repeated doses of Calabar bean. Dr. Phelps says that he has had two cases of recovery from tetanus which he is inclined to ascribe to the use of the Calabar bean. The lecturer said that he also had had two recoveries, in both of which the disease had progressed until the patients presented the classical picture so vividly portrayed in Bell's *Anatomy of Expression*, and yet they

received only a little morphine and bromide of potassium. In one of these cases the patient, who was about thirty years of age, had a compound fracture of the forearm with a filthy wound; the other was a boy of nineteen years, who had a severe laceration of the foot. The speaker was once induced to amputate during the prodromic symptoms of tetanus, but this did not avert the fatal termination.

Tetanus is a rare affection in New York City, but it seems to be endemic near the eastern end of Long Island, and is quite common, particularly that form known as trismus neonatorum, in hot climates. Some very interesting researches have been made recently into the etiology of tetanus, the results of which lead the observers to the belief that tetanus is of microbic origin. Briéger has made cultures of the tetanus bacillus, and extracted in this way a ptomaïne to which he has given the name of *tetanin*, and this in solution, when injected hypodermically into small animals, has been found to produce symptoms similar to those of tetanus.

The patient before the class had neither opisthotonos nor emprosthotonos; but the slightest movement or excitement caused a facial spasm. One of Dr. Gouley's successful cases was in such a condition for three months that simply touching him was sufficient to bring on a severe spasm. In some of these cases it is necessary to resort to rectal alimentation; and if this mode of feeding be properly carried out it is not difficult to keep up a fair standard of nutrition. He once nourished a child of five or six years entirely by the rectum for thirty days. The fluid for injection should be simple—usually milk—and before each injection the rectum should be thoroughly cleansed by a simple enema. This is important; for after a while a hypersecretion of mucus follows this method of alimentation, and beef peptones and other articles of food may remain in the rectum and putrefy, until the stench of the evacuations is intolerable.

The facts that in this case the wound looks healthy and that the slough is separating, together with the mild character of the symptoms and the very moderate disturbance which the presence of so many persons seems to have produced in him, cause us to think that the disease may terminate favorably.

MEDICAL PROGRESS.

Evacuation of the Uterus after Parturition. — MME. GACHES-SARRANTE (*La Semaine Médicale*) believes that ergot should be used neither during labor nor after, as the uterus is never completely emptied during parturition, and the clots or shreds of membrane that remain may become sources of infection, and are a frequent cause of subinvolution. The author's practice is to empty the uterus completely in all cases by passing the hand into the cavity of the organ. This procedure she thinks is attended with little danger if the hand is aseptic and if care is taken to avoid wounding the uterine tissue. If the uterus is thoroughly emptied and washed out with sterilized water, hæmorrhage is immediately arrested and involution is rapid.

Treatment of Acne.—In a paper on the treatment of acne, DR. HENRY W. BLANC, of New Orleans (*Journal of the American Medical Association*, October 25, 1890), lays particular stress on the importance of keeping the digestive organs in good condition by avoiding improper food and securing a movement of the bowels daily. The comedones and pustules should be opened regularly by a lancet and comedone-compressor, and it should be remembered that scarring is less likely to result from the disease if these measures are carefully carried out than if the pustules are not interfered with. As an application, sulphur has given the author better results than any other agent. As a lotion he prefers the following modification of the well-known *lotio alba*:

℞.—Potassium sulphide, Zinc oxide, Zinc sulphate, Glycerin, of each 2 drachms.
Rose-water sufficient to make 4 ounces.—M.

Apply to the skin after having thoroughly removed the oily secretion. This application produces a sensation of puckering and dryness of the skin. It is well to alternate this lotion with the following:

℞.—Precipitated sulphur . . . 1½ drachms.
Salicylic acid . . . 20 grains.
Fluid extract of ergot . . 2 drachms.
Lanolin sufficient to make . 1 ounce.—M.

This should be applied morning and evening after having washed the face with water and Hebra's alcoholic soap-lotion. [Hebra's soap-solution is composed of green soap 4 ounces, dilute alcohol 2 ounces, spirit of lavender 1 drachm.] In some cases ichthyol and salicylic acid combined as follows are useful:

℞.—Ichthyol . . . . . 6 drachms.
Salicylic acid . . . . . 40 grains.
Vaseline . . . . . 2 ounces.—M.
Apply to the face night and morning.

During the treatment of acne it is important to avoid anything which irritates the skin, such as dust, frequent washing, and friction with a coarse towel. It is well to use a bland soap in order to remove the oily secretion of the sebaceous glands, or in its place the following lotion may be used:

℞.—Boric acid, Glycerin, of each . . . 2 drachms.
Alcohol . . . . . 1 ounce.
Ether sufficient to make . . 3 ounces.—M.
This may be allowed to dry upon the face, and will not attract attention.

Therapeutics of Biniodide of Mercury.—DR. C. R. ILLINGWORTH, who has so persistently advocated the use of biniodide of mercury as an antiseptic, contributes another paper upon the subject (*Provincial Medical Journal*, November 1, 1890). The salt is prepared by dissolving bichloride of mercury in a solution of potassium or sodium iodide. Locally he uses the solution in the following diseases: Ophthalmia neonatorum, 1 to 3000; gonorrhœa, 1 to 5000 or 6000; hay-asthma, 1 to 1000; alopecia, 1 to 500; scabies, 1 to 400; ringworm, 1 to 4 or 5; ozæna, 1 to 3000 or 4000; otorrhœa, 1 to 2000 or 3000; pelvic abscess, 1 to 2000 or 3000; and in the strength of 1 to 2000 to disinfect the mouth and throat

in scarlet fever and diphtheria, and the nose, eyes, and air-passages in measles and whooping-cough.

Dr. Illingworth considers the alterative action of the drug of even more importance than the antiseptic action, particularly in the treatment of inflammatory diseases of the serous membranes, such as meningitis, pericarditis, pleuritis, and peritonitis. For instance, in the meningitis of children he uses the following formula:

℞.—Solution of bichloride of mercury (B. P.) . . 2 to 3 drachms.
Potassium iodide . . 7 to 15 grains.
Antipyrine . . . 15 to 30 "
Syrup. . . . . ½ ounce.
Water sufficient to make . 1½ ounces.—M.

Dose.—One teaspoonful every one or two hours.

In addition to this, 1 or 2-minim doses of tincture of aconite may be given. If convulsions occur 1-grain doses of chloral may be given every hour for twelve hours. If the temperature is very high, Dr. Illingworth gives sodium salicylate 2 grains and aromatic spirit of ammonia 2 minims with each dose of the above mixture. Pleurisy he treats on the same general plan.

Treatment of Seminal Emissions. — According to the *Canada Lancet*, BUMSTEAD recommends the following to diminish the frequency of seminal emissions:

℞.—Potassium bromid. } of each 1 ounce.
Tinct. of chloride of iron }
Water . . . . . 3 ounces.—M.

Dose.—One or two teaspoonfuls an hour after meals and at bedtime.

Methyl-violet (Pyoktanin) as an Antiseptic. — STILLING (*Therapeutische Monatshefte*) recommends mythyl-violet (sold by Merck under the name of *pyoktanin*) as an antiseptic, and believes that it also has the power to prevent the formation of pus. Pathogenic and other microbes, as is well known, have a great affinity for aniline colors and are rapidly killed by them. A 1-to-1000 solution of methyl-violet applied to the eye stains the conjunctiva, iris, and sclerotic, but not the cornea, blue, which disappears within twenty-four hours. The drug is practically non-poisonous, although fatal to rabbits if introduced into the peritoneal cavity in large quantities. Stilling recommends a 1-to-1000 solution of the dye in corneal ulcers, blepharitis, conjunctivitis, phlyctenulæ, keratitis, and serous iritis. He also says that it will sterilize the pus of suppurating wounds and ulcers, and that it is useful as an injection in cases of empyæma and purulent peritonitis, and as an enema in typhoid fever and dysentery. Surgical instruments may be sterilized by washing with a 1-to-10,000 solution of the drug, and wounds, after operations, may be douched with 1-to-2000 or even weaker solutions.

GARRÁ and TROJE (*Munchener medicinishe Wochenschrift*) find that methyl-violet is not poisonous, but that it has no specific antipyogenous action. Their experiments apparently show that although a solution of 1 to 1000 inhibits the development of the cocci found in pus, it does not kill them even after an exposure of twelve hours.

M. BRESGEN speaks highly of the value of methly-violet in the treatment of diseases of the nose, and considers it especially useful in local suppurating areas of the nasal mucous membrane, such as occur after cauterization. It should be applied in solution until the tissues are of a deep-blue color, after which the nasal cavity should be plugged with methyl-violet wool for two hours. According to the author, the application diminishes suppuration and inflammation and relieves pain.—*British Medical Journal*, November 8, 1890.

The Curability of Acute Phthisis.—DR. MCCALL ANDERSON (*British Medical Journal*, November 8, 1890) divides acute phthisis into two forms, namely, acute (miliary) tuberculosis and acute pneumonic phthisis. In the latter form the disease exhibits, almost from the first, more or less extensive consolidation, most frequently of the upper lobes, leading to widespread destruction of the lung, and soon terminating the life of the patient.

Although acute phthisis is usually considered a fatal disease, Dr. Anderson has reported seven cases with five recoveries, all of which were treated by the following plan:

1. Two thoroughly-trained nurses, one for night the other for day, are indispensable. The patient must be fed upon fluid food both day and night, soup being avoided if diarrhœa is present. From two to ten ounces of whiskey daily are required in the beginning of the attack, but should be given in frequent small doses with the food.

2. At bedtime a subcutaneous injection of sulphate of atropine (from $\frac{1}{100}$ to $\frac{1}{60}$ grain) is given. This checks perspiration, acts as a sedative, indirectly helps to reduce the fever, and diminishes the secretion from the lungs.

3. Remedies to lower the temperature are given and are of the utmost importance. Some benefit is derived from permitting the patient to suck ice freely, from giving the food and drinks iced, from sponging the body with iced vinegar and water, and from using iced enemata, but our main reliance must be upon one or more of the following methods:

a. Niemeyer's antipyretic pill or powder (quinine 1 grain, digitalis ½ to 1 grain, opium ¼ to ½ grain) given every four hours, and increasing the amount of opium if there is diarrhœa. The effects of the digitalis must be watched, and if the pulse becomes very slow or the urine scanty the remedy must be omitted for a time.

b. The daily administration shortly before the time that the temperature tends to be the highest, of from ten to thirty grains of quinine, either in a single dose or in divided doses within an hour.

c. The application of iced cloths to the abdomen for half an hour every two hours so long as the temperature exceeds 100°. In applying the cold cloths the night-dress should be drawn up to the chest, a folded blanket placed under the patient, and the bedclothes arranged so that they cover the chest only, the remainder of the body being protected with an extra blanket. Two pieces of flannel are employed, each being sufficiently large, when folded into four layers, to cover the front and sides of the abdomen. One cloth is applied and covered with a dry piece of flannel, while the other is placed in a vessel of iced water by the side of the bed. The flannels should be changed at intervals of a minute.

Dr. Anderson, at the close of his paper, reports a case in which this treatment was carried out, the patient recovering.

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SATURDAY, NOVEMBER 29, 1890.

KOCH AND HIS DISCOVERY.

THREE things may be noticed as the result of the publication of his methods by Koch. First, an extraordinary professional and popular interest; second, a flocking of medical men and consumptives to Berlin; and third, a gradually-increasing feeling of distrust both of the advantages of the so-called cure, and of the man for his refusal to reveal the secret of the preparation of the anti-tubercular fluid.

The popular interest shown is natural and proper, but the flocking of medical men to Berlin is probably useless—for those who remain behind will be kept informed of all points of interest by the cable, and those who go will be so lost in the rush that their identity will be overlooked, as the investigator and his assistants cannot supply and teach men by the thousand. Again, the trip to Berlin by consumptives is useless and absurd, both because of its dangers and ultimate uncertainty of relief, and by reason of the fact that the rule of "first come first served," so rigidly adhered to, forces a visitor to wait for weeks before he can be treated.

There is much to be said for and against Koch and his so-called cure, for there is a professional, a pecuniary, and a humanitarian side to the subject. While it is against professional ethics to hide from others anything which could be of benefit to the sick, it can be well said that anyone who makes so great a study and possible revolution in medicine should be allowed time to put every part of his work on an unalterable basis. On the other hand, if the daily papers are correct, Koch considers his work in this line finished, and is said to be preparing for studies on scarlet fever, diphtheria, and measles. This must be only partly if at all true, for the popular feeling would force both the government of Germany and the man to lend himself to the propagation of so great a boon to all nations.

In the first moment of excitement everyone felt inclined to believe much more of the possibilities of the discovery than even Koch professes to believe, and a careful and just perusal of his paper shows that he is as conservative and careful in his claims for it as in his researches. He particularly urges the necessity of remembering that all clinical tests have not been made, and still more positively points out that the remedy is of value in pulmonary phthisis only when the disease is in its earliest stages. No one who stops to think can believe otherwise, for regeneration of specialized tissues in man is practically never accomplished, and a lung once seriously involved or broken down cannot be replaced.

Without approval or condemnation it is proper for us to wait for more information, and at least to give Koch credit for a splendid attempt if not a glorious victory over disease.

The readers of THE MEDICAL NEWS can rest assured that they will be kept well informed of all matter pertaining to the subject that possesses official sanction, and that resort to full cable dispatches will be made, as in the issue of this journal for November 15th, should anything of particular interest be made public.

A LEGAL ERROR.

THE absolute inability of the ordinary jury to decide as to questions in which medical points are involved has, with unfortunate frequency, resulted in unjust verdicts and unfortunate convictions. Not only do juries reach verdicts which are as wonderful as they are wrong, but it is a notorious fact that even the judges seem to be unable to see the right side of a medical case and, in consequence, so charge the jury that there is little left for this body to do but to bring in the defendant as guilty.

Our attention is called to this subject particularly by an article which appears in the August and September numbers of *The Medical Standard*, of Chicago, detailing a case in which, for the purpose

of making a diagnosis, and also with the hope of affording relief to the patient, who was suffering from marked dyspnœa, a physician introduced an aspirating needle in the axillary line between the sixth and seventh ribs to the depth of one and one-half inches. Immediately after the operation there was some evidence of collapse, which was combated by the administration of brandy and other stimulants; but after this time the patient gradually grew worse and died on the fifth day. Before his death, however, a homœopath was called in, who ultimately made an autopsy, assisted by two others of his own school. Having no love for the regular physician who had previously been in attendance, it was not difficult for these gentlemen to make the friends believe that malpractice had been resorted to by their predecessor, and the result was a trial in which the jury promptly brought in a verdict of guilty against the defendant, notwithstanding the judge's charge to the contrary. On the second trial the verdict was given against the defendant once more with damages at $50, the judge in this instance directing the jury to bring in a verdict *against* the defendant, stating that "expert evidence is a lower order of evidence, and ought not to overthrow positive and direct evidence of witnesses who testify to facts in conflict with such experts." Such an expression of opinion upon the part of the judge is opposed to that of the decision of the Supreme Court of Iowa, which decided that the expert evidence of physicians as to the nature, diagnosis, and treatment of disease is the highest order of evidence. However, this statement of Judge Couch in this particular instance applies with considerable force to the testimony of the homœopaths, which had much to do with the conviction of the defendant. They both stated that it was never proper to use the aspirating needle for the purpose of aiding in making a diagnosis, and one of them testified that he had never heard of such a thing. Further than this, it was asserted by these followers of Hahnemann that the diaphragm is not attached to the inner walls of the chest, is of no particular use, and has no function to perform.

At this distance it is not possible for us to decide as to whether the regular physician inserted an aspirator in such a way as to injure the liver and lung, but that death should have occurred as long as five days after this operation seems to prove that this simple procedure could scarcely have caused a fatal result, even if carelessly performed. Further than this, the post-mortem showed ample cause for death in the presence of far advanced diseased processes.

CORRESPONDENCE.

CHICAGO.

To the Editor of THE MEDICAL NEWS,

SIR: Since the foundation of St. Luke's Hospital, on February 17, 1864, until September 25, 1890, 9277 persons have been received and cared for as in-patients. During the last year 819 were admitted to the wards and rooms, and 2360 received medical advice and surgical treatment at the dispensary free of charge. While the hospital is free to those who cannot afford to pay, there are some rooms set aside for those who can afford to do so. Pay-patients can also be admitted to the wards. Of the 819 admitted in 1889 270 were pay- or part-pay patients, the amount paid into the treasury by them being about $9000. The number of days of hospital care given during the last year was over 24,000—16,140 days, or 67 per cent., being given to charity patients. This makes the average stay of the 819 patients nearly one month. The average cost of each patient per day, aside from the cost of repairs, was $1.465. The admissions from the Episcopal Church were 77; from other Christian bodies 515, of whom 219 were Roman Catholics. The expenses for the year were $38,980.77.

The Woman's Physiological Institute has for its distinctive object a series of free afternoon lectures on the subjects of hygiene and sanitary science. All women are cordially invited to avail themselves of the opportunity to listen to able and instructive physicians and educators who have gratuitously contributed their time and talents to this enterprise. A course of twelve lectures is given. Dr. H. A. Johnson lectured before the Institute a few days since, his subject being "The Chest."

The overcrowded condition of the Cook County Insane Asylum will be relieved in a short time, when four cottages, now being erected, will be ready for occupancy. These cottages will accommodate 300 patients. The Asylum was badly crowded when Dr. Benson took charge, and he has done much to lessen the inconveniences which formerly existed.

Dr. James A. Lydston, in a paper on the "Etiology of Cataract," recently read before the Chicago Medical Society, advocated the theory that there is a relationship between the functions performed by the crystalline lens during accommodation and the formation of cataract, stating that he believed that the proper maintenance of accommodation depended upon the tonicity of the ciliary muscle, which is brought about by the process of osmosis taking place between the crystalline lens and the aqueous and vitreous humors; and that, if the tonicity of the ciliary muscle is impaired from any cause, degenerative changes will begin to assert themselves, and will be manifested by a more or less dense opacity of the lens.

Dr. Lydston further calls attention to the changes observed in the lens in advanced age, and believes that

the osmotic process, upon which the lens depends for nutrition, is favored by the periodical contraction and relaxation of the ciliary muscle during accommodation.

Dr. D. W. Graham reported to the Chicago Pathological Society a very unique case of a foreign body in the stomach of a child twenty-two months old. The child was believed to have swallowed some unknown object, but whether it was more than a piece of bread or other solid food was not known. The child slept, and ate and digested its food as usual, and there were no marked symptoms except crying-spells which were severe and frequent, as if from colic. When six weeks had elapsed a small abscess formed in the left hypochondriac region close to the costal cartilage, at a point corresponding to the mammary line. The abscess was opened, and, after several days, a foreign body was discovered in the wound. Dr. Graham now saw the case, and found what proved to be a lady's hat-pin projecting into the wound. The pin could be easily pulled out for several inches, but was arrested by the head, which was too large to pass through the opening. Dr. Graham now proceeded to do what probably proved to be the simplest and easiest laparotomy and gastrotomy on record. A grooved director was passed along the shaft of the pin, by the aid of which the opening was enlarged with a probe-pointed bistoury sufficiently to allow a pair of strong-jawed hæmostatic forceps to be pushed in where the probe had been. The object of this was to force the head from the shaft of the pin. This was soon accomplished, when the shaft was easily lifted out. Some gas escaped, and enough of liquid and partially-digested food to show that the track led directly into the stomach. The glass head was passed with the fæces on the following day, in two pieces. The shaft measured five and one-third inches in length. The wound healed at once, requiring only one re-dressing. No stitches were used to close the wound. The stomach was firmly adherent to the abdominal wall, which rendered the problem of the method of procedure and the operation very easy.

Among the cases of unusual interest lately presented to the orthopædic class at the Chicago Polyclinic, was one of spasmodic wry-neck successfully treated by spinal traction and incision of the urinary meatus.

Professor Charles F. Stillman, in remarking upon the case, alluded to the profound effect upon the nervous system produced by some malformations of the penis, and cited a number of instances of locomotor ataxia and other nervous diseases which had been somewhat improved by complete division of the meatus when contraction existed. The patient above referred to exhibited a penis in which the meatus was entirely closed by membrane, and after its removal the canal was found to be normal throughout its whole extent. The patient had previously urinated through a small sinus in the frænum. A congenital pouch existed at the extremity of the penis, retaining a few drops of urine.

The patient was thirty years of age, and had always been nervous and irritable, but had had no serious illness until September, 1889, when the head exhibited a tendency, without known cause, to turn toward the right, with the chin elevated, which condition gradually grew worse, and was soon complicated with tremor and spasm. When first seen, in April, 1890, he had spasmodic torticollis, and for several months previously had been confined to his room.

The treatment consisted of exercise, during traction upon the spinal column on both the upright and recumbent curved boards, together with the operation already referred to, and was attended with entire success. The case was considered of interest because of the well-known obstinacy of these cases to ordinary remedies.

Dr. George F. Fisk recently read an interesting paper on the "Use of the Phonograph in Testing the Hearing," before the Chicago Medical Society. His method of using the phonograph in his own practice is to prepare the cylinder in the absence of the patient, speaking fifteen or twenty test-words in a loud and even voice into the machine. Such words the phonograph reproduces so that a person of normal hearing can distinguish them at a distance of from twenty to forty feet, according to the strength of voice used in recording them. No hearing-tube is used, simply the air-conduction in a quiet room. The patient is at first placed thirty or forty feet distant from the phonograph—beyond hearing-distance—and then gradually brought to a point where most of the words can be correctly repeated. The words heard, hearing-distance, name of patient, date, etc., are then recorded on the same cylinder, which is given to the patient for use at another examination or in consultation with another aurist. It is believed that the phonograph is the only instrument to test the hearing which fulfils the following conditions: (1) It makes use of human speech; (2) it is accurate and independent of the examiner; and (3) it makes a record capable of interpretation and use by other aurists.

In examining several phonographs with the same cylinder, and controlling the hearing-distance by two observers possessing normal hearing, no difference could be detected in the different machines. At present five accurate copies have been made of a given cylinder, but at great expense. If indefinite reproduction from a given cylinder (phonogram) shall in the future become possible, then aurists in different parts of the world can use the same tests, and their records and tests will become perfectly intelligible to one another, as is the case now with the oculists' records through the universal employment of Snellen's test-types.

ST. PAUL AND MINNEAPOLIS.

To the Editor of THE MEDICAL NEWS,

SIR: Nothing of very great interest to our profession has lately occurred in Minnesota. We have had our annual meeting of the State Society, at which the following officers were elected:

President, W. L. Beebe, M.D.; First Vice-President, W. D. Flinn, M.D.; Second Vice-President, F. E. Bissel, M.D.; Third Vice-President, J. E. Moore, M.D.; Secretary, C. B. Witherle, M.D.; Treasurer, R. J. Hill, M.D. Some interesting papers were read and cases shown, and as a whole the meeting was a very successful one.

Perhaps of the most interest to the profession at large are the results of our excellent State Medical Law as shown by the report of the Secretary of the State Examing Board, Dr. Arthur Sweeney. This Examining Board has now been in existence for three years, and

although occasional difficulties have occurred in the administration of its duties, they have been of minor character and easily overcome.

Our first medical act was passed November 15, 1883. Under this act a State Medical Examining Board composed of the Regents of the University of Minnesota was organized. This board granted 1501 licenses, of which 1325 were granted to physicians with diplomas from recognized medical colleges upon registration of their diplomas; 33 to physicians after examination, and 143 (exemption certificates) to physicians who had practised in the State for five years prior to the passage of the act.

July 1, 1887, this act was repealed and the present act passed, on conviction that the act of 1883 was not an efficient barrier against incompetent practitioners. The following are some of the interesting features of the act:

The Governor of this State shall appoint a board of examiners, to be known as the State Board of Medical Examiners, consisting of nine members, who shall hold their office for three years after such appointment, and until their successors are appointed.

Provided, That the members thereof first appointed under this act shall be divided into three classes, each class to consist of three. The first class shall hold office under said appointment for the period of one year; the second class for two years, and the third class for three years, from the date of their appointment.

It is further provided that no member thereof shall be appointed to serve for more than two terms in succession, and no member of any college or university having a medical department shall be appointed to serve as member of said board, two of which shall be homœopathic physicians.

The Board of Medical Examiners shall hold meetings for examination at St. Paul, the capital of Minnesota, on the first Tuesday of January, April, July, and October of each year, and such other meetings as said board may from time to time appoint.

All persons hereafter commencing the practice of medicine and surgery, in any of its branches, in this State shall apply to said board for a license so to do, and such applicant, at the time and place designated by said board, or at the regular meeting of said board, shall submit to an examination in the following branches, to wit: Anatomy, Physiology, Chemistry, Histology, Materia Medica, Therapeutics, Preventive Medicine, Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear, Medical Jurisprudence, and such other branches as the board shall deem advisable, and present evidence of having attended three courses of lectures of at least six months each. The clause requiring "three courses of lectures of at least six months each" applies only to those who have been graduated later than July 1, 1887. When desired, said examination may be conducted in the presence of the dean of any medical school or the president of any medical society of this State. After examination, the board shall grant a license to such applicant to practise medicine and surgery in the State of Minnesota; which license can be granted only by the consent of not less than seven members of said board, and shall be signed by the president and secretary of said board, and attested by the seal thereof. The fee of such examination shall be the sum of ten dollars. The board may refuse or revoke a license for unprofessional, dishonorable or immoral conduct. In all cases of refusal or revocation the applicant may appeal to the appointing power of said board.

The examinations are conducted with the utmost fairness and justice. Each applicant writes his name opposite a number in a book, which number he places on his paper. It is against the rules of the board that the Secretary, who conducts the examinations, shall reveal the name of candidate until the latter has been granted or refused a license.

The examination lasts for two and a half days, two hours being allowed for each subject. The papers are forwarded in a sealed box to the examiner. After the close of the examination the full board meets, the markings are submitted to the secretary, and the candidates are then voted on by numbers, after which the results are announced.

The following rules and regulations govern the conduct of the examinations:

I. Any applicant for examination and license to practise medicine in this State, who is a graduate of *over five years'* standing before making application for such examination and license, shall be considered an "old practitioner," and any such applicant who is a graduate of *less than five years* shall be considered a "recent graduate."

II. Applicants who are "old practitioners" shall be required to obtain a minimum marking of not less than *sixty-five* per cent. in each of the following subjects: 1. Practice of Medicine; 2. Practice of Surgery; 3. Materia Medica; 4. Obstetrics, and Diseases of Women and Children; and a minimum marking of not less than *thirty-five* per cent. in each of the following subjects: 1. Anatomy; 2. Chemistry; 3. Physiology; 4. Pathology, Histology and Preventive Medicine; 5. Diseases of the Eye and Ear; 6. Medical Jurisprudence.

III. Applicants who are "recent graduates" shall be required to receive a minimum marking of *thirty-five* per cent. in: 1. Practice of Medicine; 2. Practice of Surgery; 3. Materia Medica; 4. Obstetrics, and Diseases of Women and Children; and a minimum marking of not less than *fifty* per cent. in each of the following: 1. Anatomy; 2. Chemistry; 3. Physiology; 4. Pathology, Histology, and Preventive Medicine; 5. Diseases of the Eye and Ear; 6. Medical Jurisprudence.

IV. No applicant shall be granted a license whose general average in all the subjects in which he is examined by this Board is less than *sixty-five* per cent., one hundred being the highest average possible for any applicant to obtain.

It will be noticed that the clause providing that to be eligible for examination, the applicant must present evidence of having attended at least three courses of lectures of six months each, excludes, as nearly as possible, applicants with an imperfect medical education. In spite of this clause, however, some of the answers to the questions are so ridiculous, and show such an utter lack of knowledge, as fully to impress anyone with the fact that some of our best schools sometimes send out very poor graduates. Dr. Sweeney, in his excellent *Register of Physicians*, states that since the passage of the act,

July 1, 1887, to July 5, 1890, "Thirteen examinations have been held, at which 205 candidates have presented themselves. Of this number 128, or 62.44 per cent., have been issued licenses, and 77, or 37.56 per cent., have been rejected. Of the total number of candidates, 62 had graduated five years prior to the date of examination, of whom 30 were licensed and 32 rejected. Two licenses granted by the former board have been revoked, it having been ascertained that the diplomas upon which the licenses were issued were fraudulent. One license has been revoked for unprofessional conduct in attending a patient while under the influence of intoxicants."

Under the old board of 1883 and the present one up to July 5, 1890, 1629 licenses have been issued.[1] On July 5, 1890, there were in active practice in the State 1191 physicians of all classes holding licenses, as follows:

Located.	Licensed on presentation of diplomas.	Exemption certificates.	Licensed on examination by the Board of 1883.	Licensed on examination by the Board of 1887.	Affidavits of exemption filed.	Exempt by practice prior to 1887.
Ramsey County . .	149	3	3	32	4	10
Hennepin County .	212	8	2	33	...	25
Balance of State . .	481	81	20	40	37	51
Total	842	92	25	105	41	86

Located.	Regular.	Homœopathic.	Eclectic.	Unclassified.	Total.
Ramsey County	149	34	4	14	201
Hennepin County	196	44	9	31	280
Balance of State	503	78	25	104	710
Total	848	156	38	149	1191

As the members of the Examining Board are chosen from the ranks of the profession not connected with any of the medical colleges, there is no chance of partiality in this direction. The board is a mixed body, composed of regular practitioners and homœopaths, the regulars being in the majority. Naturally some of the questions asked by men who are not teachers are sometimes peculiar, and some complaints are heard. As a whole, the results of the board's work have been eminently satisfactory to both applicants and the profession at large, and I think we can now say truly that Minnesota receives into the ranks of its medical profession only the better educated graduates from our best medical colleges.

[1] This table and the facts of this paper have all been taken from the Register of Physicians, issued by the Secretary of the State Medical Examining Board, Dr. Arthur Sweeney.

NEW YORK.

To the Editor of THE MEDICAL NEWS,

SIR: I have to chronicle an event of the greatest importance to the medical profession of this city, and one which it is confidently hoped will mark a new era in its history. I refer to the formal opening of the new building of the New York Academy of Medicine. Of course, there have been some grumblers, who, steeped in utilitarian ideas, could see no justification for this lavish expenditure for the new building, when, as they said, even on occasions of great interest, it was easy to find seats in the assembly hall of the old building. It is, unfortunately, true that the attendance at the meetings was often shamefully meagre, but the library had outgrown its bounds, and, more important than all this, those who had devoted much time and consideration to the advancement of the interests of the Academy, foresaw, with commendable wordly wisdom, that if the Academy desired to exert still more influence in public matters, it must place itself before the eyes of the public in a fitting position of dignity and honor; in short, it must show a proper self-respect if it would win the respect and esteem of others. This point was emphasized in the anniversary oration delivered by Dr. E. L. Keyes, when he said that if there were sermons in stones, then the very walls of the building had already delivered an address in a strain of far greater dignity than any to which he could aspire.

The new home of the Academy, which is at No. 17 West Forty-third Street, near Fifth Avenue, is a very accessible location, and is as nearly central as it was possible to obtain. Compared with the accommodations of this medical body in a room over a coal-yard, forty years ago, this new edifice is superb. It covers a plot, 75 x 100 feet, and has a basement, four full stories and two half stories. The front is partly of fine red sandstone and partly of brick, the apex of the gable being finished in carved stone-work. The main assembly hall with the adjoining banqueting hall is a memorial of the late Dr. Alexander Hosack, and is known as Hosack Hall. The smoking-room adjoins the assembly hall, and, by opening the dining-room and this smoking-room, one large hall can readily be obtained when needed for unusually large gatherings. Such an arrangement was particularly valuable on the evening of its formal opening, for upward of one thousand ladies and gentlemen assembled to do honor to the occasion. The second story is mainly occupied by the reading-room and library, with its abundant accommodations for the current medical periodicals, and a book-room capable of holding two hundred and fifty thousand volumes. The third and fourth stories contain small meeting-rooms for the Sections of the Academy, and for other societies; also rooms for laboratory work; and one provided with a skylight, so that Fellows who have not sufficient light in their offices may be able to photograph their cases. The building is finished in a beautifully fine and very dark antique oak; ventilation is secured by a revolving fan in the basement; and the illumination is by incandescent electric lights arranged on very tasteful fixtures.

The opening exercises, to which I have alluded, were held on the evening of November 20th. After the invocation by the Rev. Dr. Howard Crosby, Dr. Alfred L.

Loomis delivered the President's address, in which he spoke of the eminent men who founded the Academy, of its proud record for scientific work, and of its library of forty thousand volumes, together with the largest and best collection of journals to be found in the country. He said that, as there were well-organized sections in all the special departments of medicine and surgery, each Fellow might find a congenial place in which to work. They were under no obligations to the past, but under bonds to the future. The career of the physician of the future would be nobler and pleasanter, because he would have less of ignorance and prejudice to combat, but he would require a higher culture than his representative of to-day. In closing his address, he said: "So shall the congratulations, which we utter to-night, re-echo from these walls when other voices recall this day. Join with me, then, in thanksgiving to the Great Physician for what has been accomplished, and in this invocation, that those walls may not crumble or cease to shelter faithful, earnest, Christian men, until suffering humanity is free from its bondage to lust and excess, and is victorious in its struggle against the invisible arrows of disease." In the course of his oration, Dr. Keyes said that, "although the idea of founding such an Academy of Medicine was conceived and began to take shape in the latter part of 1846, it was not until December 12, 1874, that it secured a home of its own at 12 West Thirty-first Street. One of its important functions had always been the promotion of the public health, and how truly it had done its part in this direction was to be seen in the "existence of our efficient city Board of Health, which was conceived and formed in the bosom of this Academy in the interest of the citizens of New York." The membership of the Academy had reached nearly seven hundred, and the library, which was among the youngest, having been founded by donations in 1877, was already safely housed in a fire-proof home, and occupied the third place numerically in the medical libraries of America, and the fourth place among the purely medical libraries of the world. It was but natural that much should be said on this occasion in praise of the library, of which all New York physicians are justly proud, and, it is safe to say that that feeling was greatly enhanced by the description given by Dr. S. Weir Mitchell, of the miserable way in which the library of the French Academy was housed. When Dr. Mitchell asked why it was so poorly classified and arranged, he was told that they were "waiting for the Government to put up a new building." Surgeon-General John S. Billings, in offering congratulations on behalf of the medical officers of the army and other departments of the government, said that the central feature of this Academy was its library, and facetiously added that he would like to say a few things about the "*branch* of this library in Washington." At that "branch," they are always ready to extend such courtesies to the profession as is possible, but their work in this direction had been somewhat misunderstood. About one year ago, the editor of a leading medical journal of New York City suggested to a correspondent, asking for a certain kind of information, that he might obtain it for a small compensation by applying to the Surgeon-General at Washington. Dr. Billings said that he then had a very realizing sense of the great power of the press, for he was immediately overwhelmed with all sorts of letters and inquiries. Dr. Reginald Fitz, of Boston, spoke of the principal library in that city, and Dr. Abraham Jacobi pictured the needs of "our library," and made an eloquent plea for financial aid for it. The venerable Fordyce Barker, who was introduced as one "whose Presidency marked a new era in the history of the Academy," was received with enthusiastic applause. In a few well-chosen words he offered his congratulations, and said that that auspicious occasion would have been long delayed had it not been for the zealous work of the President and of his immediate predecessor, Dr. Jacobi. Dr. S. Weir Mitchell, in offering the congratulations of the College of Physicians of Philadelphia, took the opportunity of calling the attention of the general public to the fact that what we are often pleased to style "our profession," is rather a guild or brotherhood, possessing a creed of morals including honor, chastity, brotherhood, and the largest charity; the records of much of its work not being kept in the books of this world. As regards the charity of the profession, he thought the public generally did not understand that two-thirds of the most celebrated physicians of New York City gave three or four hours a week to free work among the poor. He was not aware that a similar custom existed among merchants or lawyers.

At the conclusion of the speeches, a collation was served in the banqueting-room. Letters of congratulations were read from well-known physicians in Chicago, New Haven, Boston, and elsewhere, and Oliver Wendell Holmes sent a characteristic letter, which was a fitting close to this memorable occasion. He said: "Academies have been too often thought of as places of honorable retirement and dignified ease: roosts where emeritus professors and effete men of letters, once cocks of the walk, could sit in quiet rows, while the fighting, the clucking, and the crowing were going on beneath them. But the academy which fulfils its true function is a working body. We look to this great and able body of men to guard the sacred avenues to the temple of science against all worshippers of idols. The medical profession will always have to fight against the class of wrong-headed and dishonest individuals and schools, as they call themselves. There are a certain number of squinting brains as there are squinting eyes among every thousand of any population, and there will always be a corresponding number of persons, calling themselves physicians, ready to make a living out of them. Long may it be before the wholesome barriers are weakened that separate the thoroughbred and truly scientific practitioner from the plausible pretender. I trust it will always be enough for a physician to be able to say, 'I am a member of the New York Academy of Medicine.'"

MILWAUKEE.

To the Editor of THE MEDICAL NEWS,

SIR: In the busy and generally uneventful round of professional life as it here exists, your chronicler for Milwaukee and vicinity finds comparatively little that is of interest regarding medical affairs. The subject at present uppermost in the professional mind here, as elsewhere, is the new remedy for tuberculosis. The

leading men of the profession look upon the subject encouragingly, and hope that Koch may, in these latest investigations, add to his already brilliant reputation and furnish to the world an effective weapon against the "great white plague." Dr. H. M. Brown, of Milwaukee, left for Berlin on November 22d to study the subjcet in Koch's laboratory. Dr. Conway, of Chicago, has also gone, at the request of Professor Ingals, for the same purpose. Drs. Frank and McDill, of this city, are already spending the winter in Berlin, and will undoubtedly avail themselves of the opportunity to study and investigate the subject.

Apropos of the subject of laboratory work, the need of a good working bacteriologist and laboratory in Milwaukee often finds expression. The average general practitioner is not usually a man fitted for the work either by inclination or previous training; and the time, to speak of one item only, required for satisfactory work is so great that the man in general practice can accomplish little or nothing in bacteriology. It is hoped that a fund contributed by wealthy citizens and controlled as might be deemed wise by some local or State society, may place at our disposal a well-equipped laboratory under the direction of a skilled pathologist. At present morbid specimens are not infrequently sent to Washington, New York, or Philadelphia for examination. The private laboratory of Mr. Edward Allis, in this city, is an example of what can be done in the manner suggested above. The work done is purely biological and is under the superintendence of Professor E. O. Whitman. Issued quarterly from this institution and edited by the gentlemen named, is the *Journal of Morphology*, the scope of which is defined in its title, and its high scientific standing is attested by the favorable notices it has received from the highest authorities in biological science both in this country and in Europe.

During the late summer and fall typhoid fever has been more than usually prevalent, and more recently an unusual increase in the number of cases and deaths from diphtheria has been noticed. In one section of the city it was deemed advisable to close for a short time one of the public schools, and other special precautions have been taken by our Health Commissioner, Dr. Wingate, to limit the spread of the disease. Notwithstanding these facts Milwaukee still maintains its reputation as a healthy city, its death-rate per thousand being less than that of other neighboring cities of about the same or larger size.

The Emergency Hospital recently extended its field of usefulness by the addition of a maternity ward. It is hoped that this institution, which has already demonstrated its worth, may in the near future find a better habitation; for a new building and a larger equipment are needed.

The State Medical Society has just published its transactions for the current year. This is the twenty-fourth volume of proceedings and compares favorably with previous issues; the papers and discussions which it contains indicate a growing interest in the work of the society on the part of the physicians throughout the State. The society is still at work on the subject of State medical legislation, and the matter will probably again be brought up at the next meeting of the State Legislature. The meeting of the State Society for next year will be held at Madison. The officers of the society are: Dr. George D. Ladd, president; Drs. F. E. Walbridge and B. T. Phillips, vice-presidents; Dr. J. R. McDill, secretary.

ST. LOUIS.

To the Editor of THE MEDICAL NEWS,

SIR: Our medical societies are now holding their regular weekly meetings again. At the St. Louis Medical, which meets in the hall of the public school board every Saturday evening, one or more papers are read and cases are reported more or less formally.

The subject of pyosalpinx has been attracting a good deal of attention in the societies for several weeks past, some very interesting specimens having been exhibited and the cases reported and discussed.

The Medico-Chirurgical Society is also holding its meetings every week instead of bi-weekly, as formerly, and the new society hall and reading-room are very convenient and pleasant. The question of lengthening the term of study preliminary to graduation from medical schools has attracted a good deal of attention here this fall, and the discussion has resulted in interviews of different professors of medical colleges by reporters of the daily newspapers. The Missouri School of Medicine (Medical Department No. 2, of the Missouri State University) has announced that after the current year a three years' carefully-graded course of study will be required of all applicants for graduation at that institution. The St. Louis school has enforced this rule for several years, beginning at a time when scarcely any of the Eastern colleges made that requirement.

The other three schools have not yet been able to adopt a three years' course.

A few days ago, after reading in one of the journals an obituary notice of Dr. Montrose A. Pallin, I chanced to pass the building which was his home when he lived here, and noticed upon it a sign with the words "The Montrose." In the rapid westward growth of our city the change from the fashionable residence to the boarding-house is the common fate of many handsome buildings; but I do not remember another instance of the utilization of the name of a former owner to increase the popularity of a boarding-house.

There has been an unusually large amount of continued and typhoid fevers this fall instead of the ordinary intermittent malarial fevers which we expect at this season of the year. In one case which occurred under my observation a girl of sixteen years had a temperature of 106.8° on five successive days in the fourth week of a fever which continued six weeks before convalescence occurred.

The St. Louis Training School for Nurses graduated a class of seven a few weeks ago. The women who are carrying on this school have done an excellent work, and the graduates of the school, having had a two years' course of study and training, are admirably qualified for their work.

NEWS ITEMS.

VARIOUS cablegrams from Berlin all agree in supporting the opinion expressed in the editorial in this number of THE MEDICAL NEWS concerning the useless-

ness of either doctors or patients travelling to Berlin at this time with the idea of obtaining any of the benefits which may accrue from the employment of Koch's antitubercular fluid.

Various regimental surgeons in different portions of the German army have been ordered to set aside soldiers under their care who are suffering from tuberculosis, in order that the service may be benefited as early as possible, but it is worthy of note that nearly ninety per cent. of the cases which are receiving injections of the antitubercular fluid are not sufferers from pulmonary tuberculosis, but chiefly from lupus and allied diseased conditions.

We are also informed through the cable that there are already hundreds of English doctors in Berlin who are permitted to see little and who have opportunity to learn less. They all agree in complaining bitterly of the scant courtesy which is shown them, and it is asserted by those who ought to know that the same treatment will be shown to the American doctors when they arrive.

Professor Koch has always been notorious for the seclusion which he insists upon, and to see him now is absolutely impossible. He has also practically limited the employment of his liquid to von Bergmann, Cornet, and Levy, all of whom in one way or another have placed the discoverer under personal obligations by favors done him in the past. So complete a monopoly have these men of the employment of the liquid that they have established numerous private hospitals in Berlin, in which they charge exorbitant prices, both for living expenses and medical attendance. Thus it is said that Levy charges every patient $25 for each visit, and that even with this extortionate price he treats nearly two hundred patients daily. The other physicians, it seems, are not far behind Levy in their charges, and physicians, students, and patients are endeavoring by every means in their power to obtain information which cannot be had. The number of consumptives who have flocked to Berlin from all parts of the Continent reaches several thousand, and it is supposed that at least 1700 of these have already been treated—none of them, of course, as yet with marked improvement in their condition. The fact that so many consumptives have applied for relief is said to be a source of much distress to Dr. Koch, who realizes better than anyone else apparently that his remedy is not a cure-all.

A Hospital at Long Branch, New Jersey.—The rapidly-growing town of Long Branch, New Jersey, has for several years felt the need of an infirmary. This want has been met by the purchase, by the Monmouth Memorial Association, of a large hotel property, which can easily be converted into a well-appointed hospital. Dr. S. H. Hunt, President of the Association, has been chiefly instrumental in carrying the project through.

Physicians at Law.—Dr. Marcely, of Buffalo, N. Y., is suing Dr. Tremaine, of the same city, for $25,000 damages for libel. It is stated that Dr. Tremaine referred to Dr. Marcely in a Society meeting as a "notorious quack," and asserted that electrical treatment as an alleged radical cure for hernia was quackish practice. Both are regularly educated physicians, Dr. Tremaine being Emeritus Professor of Surgery in one of the medical schools of Buffalo.

Case of Aconite-poisoning.—A correspondent reports a case of aconite poisoning in a farmer in Nebraska, who, having obtained some tincture of aconite for the purpose of using it as a liniment upon his horse, made an application of the liquid to his own head in order to relieve a headache. He rapidly developed symptoms of aconite-poisoning, and died in about twenty-four hours.

Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1891. Essays intended for competition may be upon any subject in medicine, and must be received by the Secretary of the College, Dr. Charles W. Dulles, on or before May 1, 1891.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 18 TO NOVEMBER 24, 1890.

MOSELEY, EDWARD B., *Captain and Assistant Surgeon.*—Is granted leave of absence for one month.—*S. O. 100, Department of Texas*, November 17, 1890.

By direction of the Acting Secretary of War, leave of absence for six months, on surgeon's certificate of disability, with permission to go beyond sea, is granted HENRY G. BURTON, *Captain and Assistant Surgeon.*—Par. 9, *S. O. 269, Headquarters of the Army, A. G. O.*, November 17, 1890.

By direction of the Acting Secretary of War, JOHN L. PHILLIPS, *Captain and Assistant Surgeon*, is relieved from further duty at Fort Crawford, Colorado, to take effect on his relinquishing the unexpired portion of his present leave of absence, and will report in person to the commanding officer Camp Guthrie, Oklahama Territory, for duty at that station, reporting by letter to the commanding general Department of the Missouri.—Par. 7, *S. O. 269, A. G. O., Washington*, November 17, 1890.

By direction of the Acting Secretary of War, leave of absence from January 1, to March 24, 1891, inclusive, with permission to go beyond sea, is granted HENRY JOHNSON, *Captain and Medical Storekeeper.*—Par. 18, *S. O. 268, A. G. O., Washington*, November 15, 1890.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING NOVEMBER 22, 1890.

AYERS, J. G., *Surgeon.*—Ordered to the U. S. Receiving-ship "Wabash."

EVANS, SHELDON GUTHRIE.—Commissioned an Assistant Surgeon in the U. S. Navy.

BATES, N. L., *Medical Director.*—Ordered as President of the Naval Medical Examining Board at Mare Island, Cal.

MOORE, A. M., *Surgeon.*—Ordered as a member of the Naval Medical Examining Board at Mare Island, Cal.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FROM OCTOBER 26 TO NOVEMBER 15, 1890.

CARTER, H. R., *Passed Assistant Surgeon.*—Granted leave of absence for fifteen days, November 14, 1890.

GUITERAS, G. M., *Assistant Surgeon.*—Granted leave of absence for thirty days, October 29, 1890.

HUSSEY, S. H., *Assistant Surgeon.*—To proceed to the South Atlantic Quarantine Station for temporary duty, October 28, 1890.

GEDDINGS, H. D., *Assistant Surgeon.*—Granted leave of absence for fourteen days, November 14, 1890.

GROENEVELT, J. F., *Assistant Surgeon.*—To report to the Superintendent of Immigration for temporary duty, October 28, 1890.